Guide to The Lee and Marie de Forest Papers

Processed by Catherine Mills, History San Jose Research Library.

History San Jose Research Library
1650 Senter Road
San Jose, CA 95112
Phone: (408) 521-5026
Fax: (408) 287-2291
Email: research@historysanjose.org
URL: http://historysanjose.org
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Guide to The Lee and Marie de Forest Papers

Title: The Lee and Marie de Forest Papers
Date: 1873-1977
Date (bulk): 1890-1961
Collection number: 2003-34.
Collectors: de Forest, Lee, 1873-1961
Extent: 28 linear feet
Repository: History San Jose Research Library
San Jose, CA 95112

Abstract: Papers of electronics inventor, radio and film pioneer Lee de Forest and his fourth wife, Marie Mosquini de Forest. Collection includes correspondence, manuscripts, sketches and diagrams, notebooks, patents, memoirs, patent notes and legal papers, scrapbooks, speeches, poems, photographs, and articles and other printed material, and awards, spanning from de Forest's early education at the Mount Hermon School for Boys and student days at Yale (1890s), to material collected by Marie following his death in 1961.

Physical location: History San Jose Collection Center
Languages: The majority of the collection material is in English with the exception of French and German patents, and French, German, and Spanish journal articles.

Access
The papers are available for researchers by appointment through the Curator of Library and Archives. A small number of personal documents contain sensitive information and redacted versions will be used for research purposes.

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Preferred Citation
The Lee and Marie de Forest Papers, 2003-34. History San Jose Research Library, San Jose, California.

Acquisition Information
The vast majority of the papers were donated by Marie de Forest in 1968 to the Perham Foundation of Los Altos Hills, California. There appear to have been at least two other additions made through rescue efforts by individual Foundation members between 1964 and 1968. After going into storage in 1991, the papers were donated in 2003 to History San Jose as part of the Perham Collection of Early Electronics.

Processing History
Processed by Catherine Mills, History San Jose Research Library, 2012, under a grant from the Council on Library Resources' Cataloging Hidden Special Collections and Archives program.

Related Collections
Lee de Forest and de Forest corporate materials can be found in sub-collections of the Perham Collection of Early Electronics (2003-1). In particular, the Perham History Files (2003-33) include several early De Forest brochures and Lloyd Espenschied's original correspondence with de Forest. The Thorn Mayes sound recordings of lectures and interviews (2003-38) also contain detailed histories of the de Forest early wireless telegraph and radiotelephony ventures. Associated material in other repositories includes:
- Lee De Forest Papers at the Library of Congress (1.6 feet, MS998006)
- Lee De Forest Papers at Yale University (1 foot, MS 1210v)
- One scrapbook held at the Los Angeles County Museum of Natural History completes the History San Jose scrapbook series

Other Finding Aids
History San Jose's PastPerfect catalog, which includes many digitized images, is searchable at http://historysanjose.pastperfect-online.com

Publication Note
Few individuals better represent the vicissitudes of invention than Lee de Forest, an ambitious experimenter and inventor with more than 300 patents, but whose business ventures often failed or became embroiled in litigation. Born in Council Bluffs, Iowa, on August 26, 1873, de Forest grew up at Talladega College, where his father, Henry Swift De Forest, served as president. After attending boarding school at Mount Hermon School for Boys, de Forest enrolled at Yale's Sheffield Scientific School through the DeForest family scholarship, where he earned money from mechanical and gaming inventions, receiving his B.A. in 1896 and Ph.D. in Physics in 1899. Early in his career, de Forest adopted the use of a lower case “d” in “de Forest;” the rest of his family used an upper case “D.”

De Forest's doctoral thesis, titled “Reflection of Hertzian Waves from the Ends of Parallel Wires,” focused on wireless propagation of electromagnetic waves, and with Edwin Smythe, a colleague from Western Electric, he developed an electrolytic detector for wireless telegraph communication. He spent the early 1900s working on wireless telegraph business ventures, including the American DeForest Telegraph Company created with Abraham White in 1902, which advertised itself through a telegraph tower at the Louisiana Purchase Exposition in St. Louis, 1904. In 1906, however, de Forest was forced to resign from the company over patent infringement issues with Reginald Fessenden. A detailed history of these companies can be found in Thorn Mayes' Wireless Communication in the United States: The Early Development of American Radio Operating Companies (East Greenwich, R.I.: New England Wireless and Steam Museum, 1989).

During this time, de Forest had been experimenting with vacuum tube technology in his laboratory, and he filed a patent application for the three-element tube (audion) in January of 1907. His focus was now on voice communication, and by early 1907 he was able to communicate using radiotelephony across his laboratory in New York City. Between 1907 and 1911 de Forest launched and built his radiotelephone companies; on January 13th, 1910, he broadcast a performance of several opera stars from the New York Metropolitan Opera House. His radiotelephone company went bankrupt in 1911 while de Forest was on the West Coast supervising Signal Corps installations in Seattle and San Francisco; he remained in Palo Alto, California, to work at the Federal Telegraph Company, hired by Chief Engineer Cyril Ewell to head a team to concentrate on the development of a circuit that would cause an audio tube to amplify.

It was at Federal Telegraph, through de Forest's work with C. V. Logwood and Herbert Van Etten, that the 1906 three-element vacuum tube (triode) was recognized as a detector, amplifier and oscillator of radio waves, and de Forest's career was reinvigorated. He then began to experiment with the possibility of recording sound on the wire that was synchronized with the taping of motion pictures and in April 1913 returned to New York City.

De Forest went on to play a significant role in broadcast radio and sound-on-film development during the 1920s. His work on the De Forest Phonofilm process, and the drama surrounding the development of sound-on-film systems, is the subject of Mike Adams' biography Lee de Forest: King of Radio, Film and Television (New York: Springer, 2011). De Forest received a Life Achievement Oscar from the Motion Pictures Academy in 1959/60 for his pioneering in the advent of "talkies."

De Forest spent the latter half of his life in Los Angeles, married to Marie Mosquini, a silent film star. He continued working in his laboratory on inventions including an aerial bomb, ground speed indicator for airplanes, a light amplifier, color television picture technologies, and a means for direct heat conversion, supported in part by a yearly grant from Bell Laboratories, and between 1950-1958 by funding from Lyndon A. Durant of the American Manufacturing Company in Chicago, Illinois.

In 1950, de Forest published his autobiography The Father of Radio (Chicago: Wilcox & Follett, 1950) and continued to encourage publicity throughout his life. The year 1956 was established as the golden anniversary of the Audion, instigating multiple celebrations in de Forest's honor. Despite these awards, however, de Forest was unsuccessful in his campaign for the Nobel Prize in Physics.

De Forest was married four times. His first marriage to Lucille Sheardon in 1906, lasted less than a year. His second wife, Nora Stanton Blatch, was the first woman to receive a civil engineering degree from Columbia University. Married in 1907, they were divorced in 1911, with one daughter, Harriet (b. 1909). Mary Mayo, his third wife, was an accomplished singer; they married in 1912 and lived at de Forest's home on the Hudson River at W. 231st Street, Spuyten Duylvil, New York, called "Riverlure." She bore him two daughters, Eleanor (b. 1919), and Marilyn (b. 1924), but their marriage had ended by the time de Forest met and married Marie Mosquini in Los Angeles in 1930.

Lee and Marie lived at 8190 Hollywood Boulevard in Los Angeles; Marie sold the house in 1967, several years after his death in 1961.
Scope and Content Summary
Papers of electronics inventor, radio and film pioneer Lee de Forest and his fourth wife, Marie Mosquini de Forest. Collection includes correspondence, manuscripts, sketches and diagrams, notebooks, patents, memoirs, patent notes and legal papers, scrapbooks, speeches, poems, photographs, and articles and other printed material, and awards, spanning from de Forest's early education at the Mount Hermon School for Boys and student days at Yale (1890s), to material collected by Marie following his death in 1961.

De Forest's 1906 invention of the "Audion" tube (or triode), the first electronic amplifier, has been called the most important electronics invention between the development of radio and the birth of the transistor. De Forest is credited with some 300 patents, and spent much time on patent litigation. He also played a significant role in broadcast radio and sound-on-film development. His papers reveal much about the man and the inventions as well as the evolution of radio, motion pictures, and American electronics.

The papers are divided into 12 series. It is worth noting that gaps in de Forest's early research have resulted from the January 1908 fire that destroyed records and notebooks housed at his laboratory in the Parker Building in New York City.

Indexing Terms
These and related materials may be found under the following headings in online catalogs.

Subjects
De Forest, Lee, 1873-1961--Archives.
Mosquini, Marie, 1899---Archives.
Mayo, Mary
de Forest, Nora Stanton Blatch
De Forest, Henry Swift
De Forest, Anne Margaret Robbins
De Forest, Charles Mills
De Forest, Mary Robbins
White, Abraham
Armstrong, Edwin H. (Edwin Howard), 1890-1954
De Forest Wireless Telegraph Company
De Forest Phonofilm Corporation
De Forest Radio Telephone & Telegraph Co.
Dominion DeForest Wireless Telegraph Company Ltd.
De Forest's Training, inc.
De Forest Dynatherm (brand)
De Forest Pioneers
De Forest Radio Company
Yale University. Sheffield Scientific School.
United Engineering Laboratories
Inventors--California.
Radio--History.
Radio broadcasting--United States--History.
Wireless telegraph--History.
Vacuum-tubes--History.
Sound motion pictures--History.

Genres and Forms of Materials
correspondence
scrapbooks
patents
administrative records
photographs
clippings (information artifacts)
ephemera
manuscripts for publication
research notes

Box 1-8  Series 1. Correspondence 1888-1978

Physical Description: 6 linear feet.

Series Scope and Content Summary

Personal and business correspondence of Lee de Forest, Marie de Forest, and United Engineering Laboratories.

Box 1-7  Subseries 1.1 Lee de Forest Correspondence 1888-1961

Physical Description: 5 linear feet.

Series Scope and Content Summary

Personal and business correspondence. Includes 14 folders of letters between de Forest and his family, wives and girlfriends. Because of de Forest's work as an independent inventor, much of his business and personal correspondence overlaps.

Box 1  Subseries 1.2 Marie de Forest Correspondence 1952-1978

Physical Description: 1 folder.

Series Scope and Content Summary

Personal and business correspondence of Marie de Forest, primarily correspondence with the Perham Foundation and Foothill Museum regarding the donation of Lee de Forest's papers to the new electronics museum.

Box 8  Subseries 1.3 United Engineering Laboratories Correspondence 1950-1958

Physical Description: 1 linear foot.

Series Scope and Content Summary

UEL was set up and financed in 1950 by Lyndon Durant of United Manufacturing Company in order to provide Lee de Forest with a laboratory in which to conduct experiments related to direct energy conversion. It was located at 1027 N. Highland Avenue, Los Angeles 38, California. The arrangement continued until April 1958, at which point the machine shop was shut down and the equipment sold or donated to universities.


Physical Description: 4.5 linear feet.

Series Scope and Content Summary

Lee and Marie de Forest personal financial records, Lee de Forest Foundation business records, United Engineering Laboratories administrative and financial records, and corporate records and ephemera from de Forest's companies.
Box 9  Subseries 2.1  **Lee and Marie de Forest Financial Records 1923-1967**

Physical Description: .25 linear feet.

Series Scope and Content Summary

Insurance contracts, income tax records, checkbooks, receipts, and wills.

Box 10-12  Subseries 2.2  **De Forest Corporate Records and Ephemera 1900-1952**

Physical Description: .5 linear feet.

Series Scope and Content Summary

Assorted records and ephemera from De Forest Wireless Telegraph Company, Dominion De Forest Wireless Telegraph Company, Ltd., The Radio Telephone Company/de Forest Wireless System, de Forest Radio Tel & Tel Co., De Forest Phonofilm Corporation, De Forest Radio Co., De Forest Short-Wave Therapy (Dynatherm), De Forest's Training, Inc.

Box 13  Subseries 2.3  **The Lee deForest Foundation Records 1950-1954**

Physical Description: .5 linear feet.

Series Scope and Content Summary

The Foundation was established in July 1950 as a tax-exempt organization under Section 101(6) of the Internal Revenue Code by Lee de Forest, Alfred J. Schramm, H. L. Oettinger, Ulysses A. Sanabria, and Benjamin M. Becker, for the purpose of funding research projects by United Engineering Laboratories with de Forest as Research Director. Soon thereafter, the Foundation contracted with Lyndon A. Durant to experiment with thermal electronics, specifically the conversion of heat directly into electricity. The Foundation was terminated in June 1954, apparently as the result of income tax obligations.

Box 14-18  Subseries 2.4  **United Engineering Laboratories Business Records 1950-1959**

Physical Description: 3 linear feet.

Series Scope and Content Summary

Invoices, receipts, petty cash and expense reports to United Manufacturing Company, as well as personnel, banking and tax records.

Box No. 19-26  Series 3.  **Lee de Forest Research and Reference Materials 1891-1961**

Physical Description: 4.5 linear feet.

Series Scope and Content Summary

Includes de Forest's handwritten class notebooks from Yale University, research notebooks, loose notes, sketches and diagrams, and third-party reference material collected over the course of de Forest's career.

Box 19-22  Subseries 3.1  **Lecture and research notebooks 1891-1956**

Physical Description: 2 linear feet.

Series Scope and Content Summary

De Forest's handwritten sketches of Lake Quinsigamond (Worcester, Mass.), course lecture and research notebooks from Yale University, and research notebooks.
Box 23  
**Subseries 3.2 Loose technical notes and diagrams 1900-1959**  
- Physical Description: .5 linear feet.  
- Series Scope and Content Summary  
  Handwritten technical notes, sketches and diagrams, some undated and unidentified.

Box 24-26  
**Subseries 3.3 Reference material 1891-1961**  
- Physical Description: 2.5 linear feet.  
- Series Scope and Content Summary  
  Third-party technical reference material, including technical journals, magazine articles, product literature, and textbooks.

Box 27-28  
- Physical Description: 2.5 linear feet  
- Series Scope and Content Summary  
  Patents filed by Lee de Forest, reference patents, patent litigation documents, related correspondence.

Box 27-28  
**Subseries 4.1 Lee de Forest Patents 1906-1958**  
- Physical Description: .5 linear feet.  
- Series Scope and Content Summary  
  United States and foreign patents filed by Lee de Forest.

Box 29-31  
**Subseries 4.2 Reference Patents 1871-1955**  
- Physical Description: 1.5 linear feet.  
- Series Scope and Content Summary  
  United States and foreign patents not filed by Lee de Forest.

Box 32  
**Subseries 4.3 Patent litigation notes and court records 1919-1949**  
- Physical Description: .5 linear feet.  
- Series Scope and Content Summary  
  Notes, loose documents, and court records related to de Forest's many patent litigation proceedings.

Box 22, 33-37  
**Series 5. Autobiography and Diaries 1891-1955**  
- Physical Description: 2 linear feet  
- Series Scope and Content Summary  

Box 38  
**Series 6. Published articles by Lee de Forest 1903-1960**  
- Physical Description: .5 linear feet  
- Series Scope and Content Summary  
  Articles authored by de Forest, published in a variety of magazines and journals.
Series 7. Lee and Marie de Forest unpublished literature 1899-1961

Physical Description: 1 linear feet
Series Scope and Content Summary
Typed drafts of essays, speeches and addresses; technical manuscripts; includes autobiographical material by Marie Mosquini de Forest. Includes a handwritten copy of de Forest's Yale PhD thesis, "Reflection of Hertzian Waves from the Ends of Parallel Wires," 1899.

Box 9, 45

Series 8. Certificates and Honors 1923-1977

Physical Description: 1.5 linear feet
Series Scope and Content Summary
Awards and honors given to Lee de Forest, and programs from honorary events.

Box 41

Series 9. Talladega College and Yale University Alumni material 1895-1960

Physical Description: .5 linear feet
Series Scope and Content Summary
Newsletters, commencement programs and periodicals. De Forest gave the 1951 commencement address at Talladega College; photographs from his visit are included.

Box 43-46


Physical Description: 3 linear feet
Series Scope and Content Summary
News and magazine articles, radio transcripts about Lee de Forest and his business enterprises. Includes assorted biographical material.

Box 49-59

Series 11. Lee and Marie de Forest Scrapbooks 1873-1969

Physical Description: 6.5 linear feet
Series Scope and Content Summary
Scrapbooks of news clippings, photographs, letters, ephemera and assorted mementos related to de Forest's companies, travel, and personal life. Early scrapbooks contain a significant amount of material on Yale University in the 1890s, American DeForest Wireless Telegraph, and the wireless telegraph industry. Two scrapbooks are devoted to DeForest Phonofilm.

Box 60

Series 12. Photographs 1873-1973

Physical Description: 1 linear feet
Series Scope and Content Summary
143 loose photographs found with the Lee and Marie de Forest papers. Note that at least 400 photographs relating to de Forest's family and businesses, some of which may have been part of the original donation by Marie de Forest, have been cataloged separately under the Perham Collection of Early Electronics (2003-1).