# Philadelphia Register of Historic Places

**Philadelphia Historical Commission**

Submit all attached materials on paper and in electronic form (CD, email, flash drive). Electronic files must be Word or Word compatible.

## 1. Address of Historic Resource

**Address of Historic Resource** (must comply with an Office of Property Assessment address)

<table>
<thead>
<tr>
<th>Street address:</th>
<th>3920 Spruce Street, Philadelphia, PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postal code:</td>
<td>19104</td>
</tr>
<tr>
<td>Councilmanic District:</td>
<td>District 3</td>
</tr>
</tbody>
</table>

## 2. Name of Historic Resource

**Historic Name:**

<table>
<thead>
<tr>
<th>Historic Name:</th>
<th>3920 Spruce Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current/Common Name:</td>
<td>House of Our Own Book Store</td>
</tr>
</tbody>
</table>

## 3. Type of Historic Resource

- [x] Building
- [ ] Structure
- [ ] Site
- [ ] Object

## 4. Property Information

- **Occupancy:** [x] occupied
- **Current use:** Bookstore

## 5. Boundary Description

Please attach

## 6. Description

Please attach

## 7. Significance

Please attach the Statement of Significance.

- **Period of Significance (from year to year):** from 1890 to 1924
- **Date(s) of construction and/or alteration:** 1890
- **Architect, engineer, and/or designer:** Willis Gaylord Hale
- **Builder, contractor, and/or artisan:** William Weightman, Developer
- **Original owner:**
- **Other significant persons:** Lin Hui-yin
**CRITERIA FOR DESIGNATION:**

The historic resource satisfies the following criteria for designation (check all that apply):

- [✓] Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past; or,
- [ ] Is associated with an event of importance to the history of the City, Commonwealth or Nation; or,
- [ ] Reflects the environment in an era characterized by a distinctive architectural style; or,
- [ ] Embodies distinguishing characteristics of an architectural style or engineering specimen; or,
- [✓] Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth or Nation; or,
- [ ] Contains elements of design, detail, materials or craftsmanship which represent a significant innovation; or,
- [ ] Is part of or related to a square, park or other distinctive area which should be preserved according to an historic, cultural or architectural motif; or,
- [ ] Owing to its unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood, community or City; or,
- [ ] Has yielded, or may be likely to yield, information important in pre-history or history; or
- [ ] Exemplifies the cultural, political, economic, social or historical heritage of the community.

---

### 8. MAJOR BIBLIOGRAPHICAL REFERENCES

Please attach

---

### 9. NOMINATOR

<table>
<thead>
<tr>
<th>Organization</th>
<th>Date</th>
<th>September 22, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name with Title</td>
<td>Edited and supplemented by PHC staff</td>
<td>Email</td>
</tr>
<tr>
<td>Street Address</td>
<td>220 Curwen Road</td>
<td>Telephone</td>
</tr>
<tr>
<td>City, State, and Postal Code</td>
<td>Bryn Mawr, PA 19010</td>
<td></td>
</tr>
</tbody>
</table>

Nominator [ ] is [✓] is not the property owner.

---

**PHC USE ONLY**

<table>
<thead>
<tr>
<th>Date of Receipt: 6/18/2018 (revision submitted 9/22/2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct-Complete [✓] Incorrect-Incomplete</td>
</tr>
<tr>
<td>Date of Notice Issuance: 11/9/2018</td>
</tr>
<tr>
<td>Property Owner at Time of Notice</td>
</tr>
<tr>
<td>Name: University City Assn Inc.</td>
</tr>
<tr>
<td>Address: 730 Franklin Building, 3451 Walnut Street</td>
</tr>
<tr>
<td>City: Philadelphia</td>
</tr>
<tr>
<td>Date(s) Reviewed by the Committee on Historic Designation: 12/12/2018</td>
</tr>
<tr>
<td>Date(s) Reviewed by the Historical Commission: 1/11/2019</td>
</tr>
<tr>
<td>Date of Final Action: 1/11/2019</td>
</tr>
</tbody>
</table>

[✓] Designated [ ] Rejected 3/12/18
5. BOUNDARY DESCRIPTION

Situated on the south side of Spruce Street commencing at the distance of two hundred and sixty one feet and eight inches westward from the west side of S. 39th Street in the City of Philadelphia being known as 3920 Spruce Street, Philadelphia, Pennsylvania. Containing in front or breadth on the said Spruce Street eighteen feet and two inches and extending of that width in length or depth southward between parallel lines at right angles with the said Spruce Street one hundred and forty five feet to a certain thirty feet wide street called Delancey Street.
3920 Spruce Street. Photograph: Corey Loftus.
6. ARCHITECTURAL DESCRIPTION

Located on the south side of Spruce Street on the 3900 block, the property at 3920 Spruce Street was constructed in 1890 and designed by prominent Philadelphia architect, Willis Hale. 3920 Spruce Street was originally part of a row of six buildings (3912-22 Spruce Street) that were developed by William Weightman and designed by Hale. Each building had its own distinct design, materials, and massing. Today, only 3920 and 3922 Spruce Street have retained their original 1890 appearance. 3912-14 and 3916-18 Spruce Street have been significantly altered and do not reflect Hale’s original design.

Hale’s eclectic style is on full display at 3920 Spruce Street, as his original design survives largely intact. Although 3920 and 3922 Spruce Street are unified by their Roman brick facades, they remain distinct in their design and detailing. Individual elements are highlighted though the use of terra-cotta, cast stone, copper, and leaded glass. The overall design suggests the influence of Spanish and Middle Eastern architecture, implemented by the architect with a certain amount of playfulness.

Photograph of 3912-3922 Spruce Street. 3920 Spruce Street is the third property from the left. Constructed in 1890, the building was developed by William Weightman and designed by Willis Hale. All buildings were originally designed by Hale but 3912-14 Spruce Street and 3916-18 Spruce Street have undergone significant alteration, rendering them unrecognizable from their original design. Photograph courtesy Corey Loftus.
North elevation

3920 Spruce Street is a three-story row home clad in Roman brick primarily laid in running bond. The front façade is divided into three prominent registers.

The façade’s first level has an uncovered entry porch composed of brick, stone, cast stone, and wood porch with a decorative metal railing. The front wall of the porch has a lower opening filled with glass block and cement. This opening itself retains its historic configuration and capped by a segmental brick arch with a keystone. The main entry door was replaced by the current owners but the transom and frame appears to be original. Above the door, "House of Our Own" is carved and painted into the stone lintel. To the left of the front door is a large window crowned by a semicircular brick arch that has its original frame and configuration. A brick corbel highlights the transition from the first to second floor on the façade.

3920 Spruce Street. Photograph: Allyson Mehley.
The principle feature of the façade’s second is a narrow loggia with four thin painted wooden columns. The iron handrail features a whimsical pattern of curved swirls that echoes the railing on the porch below. Two door openings allow access to the loggia. Each opening has a double-door with a transom and stone lintels.

The third and uppermost floor is under the slope of the red-tiled roof, which is pierced by an elaborate multi-roofed dormer that shelters a triple-arched window with two squat stone columns. The front portion of the roof has terra cotta tiles (the rear roof is not visible and is flat).

**East elevation**

The front portion of the east elevation shares a party wall with the adjacent building. The rear section of the east elevation is clad in red brick and shares a breezeway with the adjacent property.

**South elevation**

The south elevation is clad in red brick. This elevation is at the rear the building and faces Delancey Street. It has a shallow porch with a small window and entry door. The second and third floors feature a double-height bay window.

**West elevation**

The west elevation is a shared party wall with 3922 Spruce Street.
Interior first floor, 3920 Spruce Street. Photograph: Corey Loftus.
Interior details of 3920 Spruce Street, clockwise from top left:
1) Original built-in armoire on second floor, 2) Early wallpaper on second floor, 3) Mosaic flooring in front entryway.
Photographs: Corey Luftus
7. STATEMENT OF SIGNIFICANCE

The property at 3920 Spruce Street constitutes a significant resource that merits designation by the Philadelphia Historical Commission and inclusion on the Philadelphia Register of Historic Places. The property satisfies criteria for designation (a) and (e) as enumerated in Section 14-1004 of the Philadelphia Code. Criterion (e) precedes (a) in the following to preserve chronological order in the nomination.

(e) Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth, or Nation

The property at 3920 Spruce Street satisfies criteria for designation (e) as it reflects the work of an architect whose work has significantly influenced the historical and architectural development of Philadelphia. Architect, Willis Gaylord Hale (1848-1907), designed the building for construction in 1890. Hale was a favorite architect of the wealthy industrial chemist, William Weightman (1813-1904), who developed a number of properties in Philadelphia at the turn of the nineteenth century (including 3920 Spruce Street) and for a short period of time was the largest individual landowner in the city. Stylistically, Hale is often compared to Frank Furness for his sometimes eccentric application of the Victorian style. In his independent practice, Hale designed a number of notable buildings in Philadelphia including the Mechanics’ Insurance Building (1881), the Philadelphia Record Building (1881-2) and the Union Trust Company Building (1884). Unfortunately, many of Hale’s buildings have been destroyed or significantly altered since construction. The property at 3920 is a valuable example of a largely preserved Hale design in West Philadelphia.

(a) Has significant character, interest or value as part of the development, heritage, or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past

3920 Spruce Street satisfies criteria for designation (a) for its association with the life of Philadelphia chemist, entrepreneur, and real estate developer, William Weightman. Weightman amassed his great fortune selling quinine, a medication used to treat malaria, in addition to a number of successful investments. When he died on August 25, 1904, Weightman’s death was announced in newspapers all over the United States including The New York Times, The Chicago Tribune, The Salt Lake Tribune, and The Lexington Herald Ledger, among others. The American Journal of Pharmacy remembered Weightman as one of America’s “most prominent chemists” and also noted that “he was a man of unusual industry, eminently just in all his transactions, and held to an unusual degree the esteem and loyalty of his employees, many of whom virtually spent the greater part of their lives in his services.”1

---

Additionally, the property at 3920 Spruce Street satisfies criterion (a) in its association with the lives of Lin Hui-yin (1904-1955) and her husband Liang Sicheng (1901-1972) who have gained both historic and folkloric fame in China for their work as architectural historians as well as their romantic and bohemian lifestyle. The famous Chinese couple, who studied architecture at the University of Pennsylvania from 1924-1927, are credited as the founders of the entire field of Chinese historical architecture.¹ Upon their return to China in 1928, the then married couple began making the first ever architectural surveys of ancient China. Their records of ancient buildings are invaluable documents that record many ancient buildings lost forever during war and the Cultural Revolution. During her first year of graduate study at the University of Pennsylvania, Lin rented a room in the private dwelling in Hale’s designed home for the fall and spring semesters.³ Today, tourists visit the property every year looking to see the house where Lin lived as a student.⁴ In addition to Lin and Liang’s paramount contribution to the historical documentation of Chinese architecture, the couple also gained great fame as folklore heroes and are admired for their romantic and personal lives.

¹ Tony Perrottet, "The Couple Who Saved China’s Ancient Architectural Treasures Before They Were Lost Forever," *Smithsonian Magazine*, January 2017
³ Deborah Sanford, in-person interview by author, April 6, 2018.
⁴ Ibid.
Willis Gaylord Hale, Philadelphia Architect

Willis Gaylord Hale (1848-1907), the architect of 3920 Spruce Street, is a significant Philadelphia architect whose designs and work have influenced the architectural development of the city. The musician and architect was born in New York in 1848, moving to Philadelphia in the 1860s. He was mentored by a number of important and influential architects including Frank Furness, Samuel Sloane, and John McArthur Jr.. Beginning his private practice in 1876, Hale was assured great architectural success and reach after marrying into the wealthy Weightman family. He was a favorite architect of William Weightman and P.A.B. Widener among other prominent Philadelphians and was given a great number of commissions by these entrepreneurs in the rather competitive architectural field in late nineteenth-century Philadelphia. In addition to private residences Hale designed a number of row houses in North and West Philadelphia as well as he took on larger projects like hotels, factories, theaters and skyscrapers.

Historian Joseph J. Korom writes about Willis G. Hale’s designed Philadelphia Record Building (1881, now demolished) in his book on the topic of the American skyscraper emphasizing that it represented “the aspirations of an architect who ventured beyond what was acclaimed, then, as ‘good taste.’”

---

Philadelphia Record Building in 1932 (917 Chestnut Street).
Photographer: Charles L. Howell.

---

Furthermore, Korom praises Hale for working “in and through a well-defined range of American architectural expressions that stressed the accumulation of discordant details, colors, textures and ornament.” Specifically pertaining to the Philadelphia Record Building, its “design challenged the accepted aesthetics of a nation, a nation unaccustomed to viewing flamboyance couples with altitude that only the skyscraper could offer.” Hale’s adventurous spirit and eclectic style might be reflective of his mentor-architect, the famous Frank Furness (1839-1912).

Unfortunately, many of Hale’s most recognized works are now demolished or altered. A few examples of his works in addition to the Philadelphia Record Building include the PAB Widener Mansion, the Bingham Hotel, Divine Lorraine, Boys Central High School (demolished), the Davis residence of Edward Thomas Davis on 38th and Ludlow, the Rittenhouse Hotel (demolished), Garrick Theatre on 13th and Chestnut Streets. The Divine Lorraine (1892-3) and the Garrick Theatre (1887) are some of the few surviving examples of Hale’s works. The Garrick Theatre (today known as the Hale Building), a nineteenth-century skyscraper, was also developed by William Weightman’s. In 2016, the building was rehabilitated by developer Brickstone Co. and converted to a mixed-use building with a ground-floor restaurant and co-working office space.7

![Sketch and two photographs of Hale’s design for the Garrick Theatre on Chestnut and Juniper streets. The photos show the building in 1909 as the Garrick Theater and in 2012. Photo from Hidden City Philadelphia article, “The Late Great Hale and His Curious Buildings,” by Maria Gorshin.](image)

Standing at the Corner of Broad and Fairmount Streets, the Divine Lorraine Hotel is Hale’s late-Victorian design. The building is historically designated both at the local and national level. Left vacant for many years, the building reopened in 2016-2017 after an extensive rehabilitation and conversion to a mixed use building with apartments.

In his photographic history of West Philadelphia, Robert Morris Skaler includes photographs of Hale’s row houses on the northwest corner of 37th and Chestnut Streets: a row of nine houses located at the northwest corner 39th and Spruce Streets (developed by Weightman), ten houses at 38th and Locust Streets (also developed by Weightman), and two four-story twin houses with tall chimneys on Walnut Street (east of 43rd Street next to Queen Anne style twin houses by the Hewitt brothers). Hale was also one of the favored architects for the development of the Parkside-Girard neighborhood which came about only after the 1876 Philadelphia Centennial Exposition in Fairmount Park and the opening of the Girard Bridge in 1874.

Skaler writes that “Hale was known for his original designs that were very picturesque, often mixing several architectural styles in one design. Chimneys, broken rooflines, porches, balconies, and bay windows were all design devices used to give each row house individual character. He was a favorite architect of developers William Weightman and P.A.B. Widener in the 1890s. At one time, his residential designs could be found all over West and North Philadelphia. Unfortunately, as with many of Hale’s designs, these rows of houses did not survive into the 21st century.”

---

8 Robert Morris Skaler, West Philadelphia, University City to 52nd Street (Charleston, SC: Arcadia, 2002), 45.
9 Skaler, West Philadelphia, 33.
William Weightman, The Quinine King

William Weightman, the notable developer 3920 Spruce Street, developed the properties on the south side of Spruce Street in 1890. Known as the “Quinine King,” Weightman’s successful career began in the early nineteenth-century when he moved to the United States from England to work with his Uncle, John Farr, in the manufacture of quinine. When his uncle died, Weightman continued working in the chemistry and commercial pharmaceutical industries where he made a fortune. Weightman’s firm, Powers & Weightman received the prestigious Elliott Cresson gold medal from the Franklin in 1975 “for the introduction of an industry new in the United States and perfection of result in the product obtained in the manufacture of citric acid” and for “the ingenuity and skill shown in the manufacture and for the perfection of workmanship displayed in the production of the cheaper alkaloids of the cinchona barks.” In the biographical sketch of Weightman’s life in *The American Journal of Pharmacy*, the eminent chemist is repeatedly praised and recognized for not only his business success, but also for his reputable character traits including his great integrity, loyalty, devotion and honesty.

When Weightman died in 1904, his only daughter was the heir to his $50,000,000 fortune, pharmaceutical empire, and real estate. Weightman Hall on 33rd street between Spruce and Walnut, which now houses the Athletic Department of the University of Pennsylvania, was built in his name in 1904. Although he was not born in Philadelphia, his legacy to the city and the life that he built are indisputably important to the development and character of the city.


Lin Hui-yin and Liang Sicheng, Architectural Historians of China’s Ancient Past

Lin Hui-yin (she was also known as Lin Whei-yin and Phyllis Lin in the United States) was born in 1901 at the end of the Qing dynasty to affluent parents. Her father was a high level bureaucrat and a leader in the Republican government. He valued an education for his daughter, and in 1920, she accompanied him on a diplomatic trip to London to study at St. Mary’s University. While in London, Lin prospered as a writer and became acquainted with the famous Chinese poet of the Crescent Moon Society, Hsu Chih-Mo (Xu Zhimo), who was living in London at the time. Hsu “is generally recognized as the greatest Chinese poet of his generation.”11 The talented poet quickly fell in love with Lin and courted her throughout her adult life, but Lin returned with her father to China where it had been arranged that she would marry her future-husband Liang.12 Lin wrote poems, essays, short stories, and plays and also translated famous English works into Chinese. Her first published work was a Chinese translation of Oscar Wilde’s “The Nightingale and the Rose.”13


The photographs were taken while Lin was a student at the University of Pennsylvania.

11 Ibid.
13 Ibid; 17.
In 1924, Lin traveled to the University of Pennsylvania with her fiance, Liang Sicheng, to study architecture in the Beaux-Arts style school under the famed French architect, Paul Cret. However, Lin was barred from the architectural studies program at the university on account of her gender. In 1924, women were not allowed into the architectural studies program because it was deemed inappropriate—“architectural students had to work on their drafting at all hours of the night, and the unchaperoned presence of women would be improper.”14 Despite what the university said, Lin persisted and found a way to study architecture during her time in Philadelphia. She enrolled as a Fine Arts student and “the university’s records reveal that by the spring of 1926 she was a part-time assistant to the Architectural Design staff and for the academic year 1926-1927 she was a part-time Instructor in Architectural Design.”15

When Lin and Liang studied at Penn, both rented rooms in private dwellings in West Philadelphia near the university. Lin rented a room at 3920 Spruce Street for two semesters during the 1924 academic year. There were eleven rooms available for rent at the time and she would have paid an estimated $5 a week rent for the room, plus $8 a week for meals.16 The building is currently occupied by House of Our Own Books, an independent bookstore. Debbie Sanford, the owner of the bookstore, says that her store has been visited by Chinese tourists on multiple occasions wishing to see the dwelling of Lin during her stay at the university. Lin and her husband, Liang, have become “folk heroes in China, their lives recounted in novels, films and documentaries.”17 Sanford keeps citations of Lin’s occupancy in a binder at the front desk to present when tourists visit asking about the famous historian and poet. Sanford’s records show that Lin resided at 3707 Woodland Avenue (now demolished) for the 1925-6 academic year. Liang, on the other hand, rented at a number of properties including 318 South 40th Street, 3942 Pine Street, and 228 South 38th Street (now demolished).

After her graduation from the University of Pennsylvania in 1927, Lin went to Connecticut to pursue a degree in Stage Design at the Yale School of Drama while Liang went to study at the Harvard graduate school of Arts and Sciences.18 They married in 1928 and returned to China where Liang accepted a job as head of the Architectural Department at Beijing University.

During the 1930s Lin published her writing in Dagongbao Monthly, although her architectural studies took priority over her writing in the years to come. At the time, there were no official records of China’s ancient architecture. Lin and Liang, as well as the dedicated members of the Institute for research in Chinese architecture, spent the 1930s searching the country for architectural treasures of the past. The task was hardly glamorous, as many of the buildings were remote and difficult to access because of underdeveloped infrastructure. Lin and Liang braved bats, insects and other pests in their determination to track down ancient structures. They planned their surveys based on leads and mentions of ancient buildings that they found in ancient texts.

14 Ibid; 24.
15 Ibid.
16 Final List: Rooms and Board in the Vicinity of the University; Laird Papers B24.
18 Ibid.
Lin and Liang returned most often to the Shanxi Province in Northern China where they had a number of successful discoveries including the Muta Pagoda (ca. 1056), and the Guangsheng Temple dated to the Early Han Dynasty where the Zhaocheng Jin Tripitaka, a Chinese copy of the Buddhist Canon from the Jin dynasty, was also found. In June 1937, shortly before Japan attacks Beijing, the couple made their oldest discovery in Wutai Shan, now a UNESCO World Heritage site in North China. They found Fuguang Si (AD 857), or Temple of the Buddha’s Light, the finest lasting example of Tang Dynasty architecture.

Lin Huiyin and Liang Sicheng at the Temple of Heaven. 1935
(source: http://wemedia.ifeng.com/10212159/wemedia.shtml)
Guangsheng Temple, Hongdong County, Shanxi Province, China. Constructed in 147AD. Photograph source: China.org.cn.

Image of a section of Zhangcheng Jin Tripitaka on display at a 2016 show at the National Library of China in Beijing. Discovered at Guangsheng Temple. Printed in the late 13th century, the Zhaocheng Jin Tripitaka is the only surviving printed edition since the original woodblocks were destroyed during the Yuan Dynasty. Image source: National Library of China/China Daily
East Great Hall of Fogoung Si, Wutai County. Tang Dynasty construction 857 AD. One of the few examples of Tang Dynasty wooden architecture to survive to this day.

Photograph Source: Art and Archaeology.com: Monuments of China.

Although the lives of Lin and Liang have been romanticized in some ways, the contribution that the couple made to the documentation of the architectural history of China cannot be understated. Penn Professor of East Asian Studies, Nancy Steinhardt, said the couple always worked as a team— together they took photographs, made notes and detailed drawings of Chinese architecture many of which were published in their book, Development Stages of Chinese Architecture.19 The two traveled to remote areas in the countryside and braved bats, bugs, mold, and rodents in search of ancient wooden structures, in fact, “their greatest discovery came on an expedition in 1937 when they dated and meticulously catalogued Foguang Si, or the Temple of Buddha’s Light, in Wutai County, Shanxi Province. The breathtaking wooden temple was built in 857 A.D., making it the oldest building known in China at the time.”20

Lin and Liang also made a mark on China with their design contributions. Lin helped design a number of the monuments now standing in Tiananmen Square and together the couple helped

---
20 Ibid.
to design the flag and national seal of the People’s Republic of China. In 1946, Liang traveled to Yale University where he helped work on a plan for the United Nations Plaza, New York City with the famous Swiss-French architect, Le Corbusier.

In 1955, Lin lost her battle to tuberculosis and died. Liang faced persecution by anti-intellectuals during the Cultural Revolution after the death of his wife. Lin and Liang’s lives and work have been thoughtfully remembered and preserved in a book by Wilma Fairbank, *Liang and Lin: Partners in Exploring China’s Architectural Past*. Wilma and her husband, John Fairbank, were close friends and colleagues of Liang and Lin and accomplished scholars of Chinese history in their own right. Wilma and John accompanied Lin and Liang in 1934 when they discovered the Guangsheng Temple. John had been living in Beijing as he finished his PhD in Chinese history. After Liang’s death (Lin had died twenty years before), the Fairbanks ensured that their work was published posthumously in *An Illustrated History of Chinese Architecture*. A collection of Lin’s poems was also published.

Lin Hui-yin’s work and personal history were highlighted in a 1982 *Washington Post* article. It described her family as “one of China’s most remarkable literary, artistic, and political families” of the early twentieth-century. The article examined the family’s dynamic history and its likely influence on Lin’s niece, the designer and artist Maya Lin (born 1959). Maya Lin became well known in the United States for her Vietnam Veterans Memorial design, created while she was an undergraduate student at Yale University in the early 1980s.

---

8. MAJOR BIBLIOGRAPHICAL REFERENCES


