Finding Aid for the Palomar Observatory motion pictures collection 1935-1996, bulk 1935-1948

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Descriptive Summary

Title: Palomar Observatory motion pictures collection,

Date (inclusive): 1935-1996, bulk 1935-1948

Collection number: 10001-Media

Creator: Unknown

Extent: 10 black and white 16mm film reels; 43 color 16mm film reels; 1 black and white 35mm reel; 19 video tapes and 1 DVD (VHS, Beta SP, Beta PAL, DVD formats)

Repository: California Institute of Technology, Caltech Archives

Pasadena, California 91125

Abstract: A collection of films showing the construction and operation of the 200-inch Hale Telescope at Palomar Observatory, Palomar Mountain, California. This instrument was the world’s largest effective telescope for 45 years (1948-1993). The collection includes footage of the transportation, grinding and polishing of the 200-inch mirror on the campus of the California Institute of Technology. A small portion of this material has been transferred to video tape and digitized from tape to DVD.

Physical location: Archives, California Institute of Technology.

Languages represented in the collection: English

Access

The collection is open for research. Researchers must apply in writing for access.

Publication Rights

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Preferred Citation

[Identification of item], Palomar Observatory motion pictures collection, 10001-Media, Caltech Archives, California Institute of Technology.

Acquisition Information

A number of the reels were placed in the Caltech Archives at different times by Robert J. Brucato, an administrator of the Palomar Observatory from 1974 to 2004. The provenance of the remaining film is unknown. Some video tapes and all digital copies in the collection were created by the Caltech Archives.

Historical Note

Palomar Observatory is located in San Diego County, California, 90 miles (140 km) southeast of Pasadena's Mount Wilson Observatory, in the Palomar Mountain Range. At approximately 5,570 feet (1,700 m) elevation, it is owned and operated by the California Institute of Technology. Research time is granted to Caltech's faculty and staff members and to research partners, which include the Jet Propulsion Laboratory and Cornell University. The 200-inch Hale reflecting telescope is the principal instrument at the Palomar Observatory. It was built by Caltech with a 6-million dollar grant from the Rockefeller Foundation. The historic 200-inch mirror was manufactured using a Pyrex blank by Corning Glass Works, in Corning, New York, and was shipped by rail to Pasadena for grinding and polishing. It was the vision and effort of the astronomer George Ellery Hale that caused the project to be funded and to go forward. The building of the 200-inch telescope was easily the most famous scientific undertaking of the 1930s. From the beginning, everyone associated with the project realized that the work must be done right or not at all. Every task associated with the Palomar project required a considerable extension of the technology of the day. In an article in the April 1928 issue of Harper's Magazine, George Hale set forth the case for the building of what was to become the 200-inch Palomar reflector. The purpose of this article was to inform the American public about his proposal to construct the largest telescope in the world to answer questions relating to the fundamental nature of the universe. Hale hoped that the American people would understand and support his project. George Ellery Hale died in 1938 and did not live to see the completion of his last and biggest telescope. In June 1948 the 200-inch reflector was dedicated to his memory. The telescope (the largest in the world at that time) saw first light on January 26, 1949, targeting NGC 2261. Russell W. Porter was primarily responsible for the striking Art Deco architecture of the Observatory's buildings, most notably the dome of the 200-inch Hale telescope. Porter was also responsible for much of the technical design of the telescope, producing a series of remarkable cross-section engineering drawings that are considered among the finest examples of such work. Porter worked on the designs in collaboration with many engineers and Caltech
committee members. The iconic, gleaming white building on Palomar Mountain that houses the 200-inch Hale telescope is considered by many to be "The Cathedral of Astronomy."

**Scope and Content**

The collection contains raw and edited film footage, some duplicated on video tape or transferred to DVD, of the construction and operation of the Palomar Observatory. The total number of items is 53 16mm reels, 1 35mm reel, 19 video tapes and 1 DVD. The earliest of these recordings are in black and white and without sound. Later footage is in color with audio. Some material appears to be raw footage, and some is clearly edited. Included in the collection are two feature-length productions prepared for public viewing: The Story of Palomar (1948), and The Universe From Palomar (1967). Both of these are in color and with sound.

There is notable duplication and overlap between footage segments in this collection. It has not been possible to identify and account for all elements of duplication or overlap. Item-level description notes provide some useful details about the relationships between individual reels throughout the collection.

**Related Material**

Papers of John A. Anderson; Astronomy Department Files; Papers of the Astrophysics Archive 1928-1954; Papers of Ira Sprague Bowen; Papers of Jesse Leonard Greenstein; Papers of George Ellery Hale; Palomar Observatory Records; Russell Porter's Sketch studies; The Drawings of Russell Porter; Papers of Bruce H. Rule.

**Indexing Terms**

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

**Subjects**

California Institute of Technology  
Palomar Mount  
Hale, George Ellery  
Reflecting Telescopes - Design and Construction  
Reflecting Telescopes - Palomar, Mount (Calif.) - History

**Genres and Forms**

Motion pictures

**Occupations**

astronomers

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**Box 1, Folder 1-2**

**Palomar Construction undated (source footage 1935-1948)**

Physical Description: 2 video tapes (VHS). Black and White. 56 min  
Note  
Includes footage of transport, grinding and polishing of the 200-inch mirror and construction of the observatory dome.

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**Box 2, Folder 1-2**

**Palomar Historical Footage undated (source footage 1935-1948)**

Physical Description: 2 video tapes (VHS). Black and White. 1hr 43 min.  
Note  
Second half is exact duplicate of video tape "Palomar Construction." First half is similar material: construction, assembly, transport of materials. Video has reddish quality.

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**Box 3, Folder 1-2**

**Palomar Archives 1 - Viewing copy undated (source footage 1935-1948)**

Physical Description: 2 video tapes (VHS). 33 min. 12 sec.

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**Box 4, Folder 1-2**

**Palomar Archives 1 - Screening copy undated (source footage 1935-1948)**

Physical Description: 2 video tapes (VHS). 33 min. 12 sec.  
Note  
This copy is time-coded.
Container List

Box 5, Folder 1


Physical Description: 1 film reel, 16mm. Black and White. Circa 40 min.

Note

Edited composite from original footage within the series devoted to construction of the Palomar telescope. Each reel is put together differently, and the material is not in chronological order or subject order. Reel 1 begins at the archway to the Caltech Optical Shop (Caltech campus), with a shot of the mirror already loaded on truck flatbed for transport to Palomar mountain. This is followed by work on the mirror. There follows a sequence of the train carrying the mirror disk (with Pyrex sign) across the country, arriving at the Pasadena station and unloading. Then comes a return to Optical Shop and polishing. There follows an extended sequence on the mountain, which also skips around from dome construction, to road work, to interior shots. Also includes harborside unloading of machinery, transport of same up the mountain road.

Box 5, Folder 2


Physical Description: 1 film reel, 16mm. Black and White. Circa 40 min.

Note

Reel 2 has more continuity than Palomar Archives 1 and is the best continuous footage on the 200-inch mirror. It begins in the Optical Shop with grinding and polishing of the mirror. It follows the mirror through loading onto flatbed truck and transport up the mountain. Following the mirror footage is a sequence of a man with the small model of the 200"-inch telescope. After this, there is a return to the dome interior, then concluding exterior shots. (From the man with the model to the end, the footage duplicates Palomar Construction, film #4. The beginning of the footage--about 31 minutes--is the same as the VHS video titled Palomar Construction. After about 31 minutes the video parts company and goes to Palomar Archives #1.)

Box 5, Folder 3


Physical Description: 1 film reel, 16mm. Black and White. Circa 40 min.

Note

Reel 3 is identical to Palomar Construction footage, nos. 1-3. (See that description.)

Box 6, Folder 1


Physical Description: 1 film reel, 16mm. Black and White. 10 min.

Note

Film footage on the arrival of the 200-inch mirror in Pasadena, with scenes out of sequence. Begins with a shot of the archway to Caltech Optical Shop; people milling around, press people with cameras; mirror transport down Colorado Boulevard; train in station, lifting mirror off with crane to truck flatbed. This footage is similar to that on Palomar Archives #1-3, but not identical.

Box 7, Folder 1-4

**Palomar Construction 1935-1948**

Physical Description: 4 film reels, 16mm. Black and White

Note

Raw footage, probably unedited. Largely a chronological documentary of the Palomar 200-inch telescope construction. Reels 1-3 are all incorporated on the large reel, Palomar Archives 3. Portions of reel 4 are on Palomar Archives 2.

Box 8, Folder 1-2

**Palomar Project Progress 1935-1948**

Physical Description: 2 film reels, 16mm. Black and White. 80 min.

Note

Edited composite from original footage. Appears identical to Palomar Archives 1 & 2.
<table>
<thead>
<tr>
<th>Container</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Box 9, Folder 1-8</td>
<td><strong>The Story of Palomar 1948</strong> <a href="http://archive.org/details/capsca_00002">🔗 http://archive.org/details/capsca_00002</a>  &lt;br&gt; Physical Description: 8 videos (Video tape, 3/4&quot;, Beta SP, Beta Pal, VHS, DVD). 40 mins.  &lt;br&gt; Note  &lt;br&gt; Video tape and DVD copies of the feature film <em>The Story of Palomar</em> (see that description below, under 16 mm film version).</td>
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<tr>
<td>Box 10, Folder 1-12</td>
<td><strong>The Story of Palomar 1948</strong>  &lt;br&gt; Physical Description: 12 film reels, 16mm. Color. 40 mins. in total.  &lt;br&gt; Note  &lt;br&gt; Feature film produced and copyrighted 1948, Caltech. Produced by E. Hoge and S. Zipser for Caltech. About the building and use of the 200-inch telescope. Includes footage of Edwin Hubble, Milton Humason, Bruce Rule, Russell W. Porter, Max Mason, John Anderson, Marcus Brown, Lee A. DuBridge, Ira Bowen and technicians working on mirror. With sky picture and animation sequences demonstrating how an optical (reflecting) telescope works.</td>
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<tr>
<td>Box 11, Folder 1</td>
<td><strong>Outtakes: Story of Palomar 1948</strong>  &lt;br&gt; Physical Description: 1 film reels, 16mm. Color. Circa 15 min.  &lt;br&gt; Note  &lt;br&gt; Raw footage similar to that used in <em>The Story of Palomar</em>; possibly outtakes or part of a set of work prints for that project.</td>
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<td>Box 12, Folder 1-10</td>
<td><strong>Palomar Stock Footage I 1960-1969</strong>  &lt;br&gt; Physical Description: 10 film reels, 16mm. Color  &lt;br&gt; Note  &lt;br&gt; Raw footage centering on the operation of the 200-inch telescope. Damaged.</td>
</tr>
<tr>
<td>Box 13, Folder 1-10</td>
<td><strong>Palomar work print 1960-1969</strong>  &lt;br&gt; Physical Description: 10 film reels, 16mm. Color  &lt;br&gt; Note  &lt;br&gt; Includes views of the telescope and an astronomer in a red and black plaid shirt getting into viewing cage and loading plates. The same astronomer (wearing the same shirt) appears in the feature film <em>The Universe from Palomar</em> (see description below); possibly these are work prints from that production.</td>
</tr>
<tr>
<td>Box 14, Folder 1</td>
<td><strong>Mount Palomar Footage (Rossi, CBS) 1964</strong>  &lt;br&gt; Physical Description: 1 film reel, 35mm. Black and White  &lt;br&gt; Note  &lt;br&gt; Source unknown.</td>
</tr>
<tr>
<td>Box 15, Folder 1-3</td>
<td><strong>The Universe from Palomar 1967</strong>  &lt;br&gt; Physical Description: 3 video tapes (Beta SP, VHS, VHS-PAL). Color. 30 min.  &lt;br&gt; Note  &lt;br&gt; Video tapes copies of the feature film produced by NET Science in cooperation with Caltech and Carnegie Institution of Washington/Mt. Wilson and Palomar Observatories (see full description below, 16 mm film).</td>
</tr>
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Box 16, Folder 1-3  **The Universe from Palomar 1967**  
http://archive.org/details/capsca_0003

Physical Description: 3 film reels, 16mm. Color. 30 min.

Note

Feature film produced by NET Science in cooperation with Caltech and Carnegie Institution of Washington/Mt. Wilson and Palomar Observatories; David Prowitt, Executive Producer. Covers both the history of the building of the telescope, especially the 200-inch mirror, and the operation of the telescope from its dedication until the date of the film. Includes footage of the casting of the mirror at Corning. Astronomers who appear in the film are Ira Bowen (who also narrates), Edwin Hubble, Milton Humason, Bruce Rule; also footage of Russell Porter and some of his drawings. There are voiceovers by George McCauley and Melvin Johnson.

Box 17, Folder 1-7  **Palomar Stock Footage II 1968**  
http://archive.org/details/capsca_0004

Physical Description: 7 film reels, 16mm. Color

Note

Raw footage. Reels match the set titled Palomar Stock Footage I but the set is incomplete.

Box 18, Folder 1  **Palomar Archives 1 1996**

Physical Description: 1 video tape (Beta SP). 33 min. 12 sec.

Note

Video tape copy of 16 mm film described above.