







































DIE VERHAAL VAN STEENKOOL

THE STORY OF COAL

STEENKOOI-VERSPREIDING

METALLURGIESE TOEWANING

OPWEKING VAN ELEKTRISITEIT

VERWARMING (WARMTE EN HUISGEBRUIK) (HEATING INDUSTRIAL AND DOMESTIC)

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VERWARMING (WARMTE EN HUISGEBRUIK) (HEATING INDUSTRIAL AND DOMESTIC)







































SIKHOTE ALIN  
Primorskiy, Russia  
Fell February 1947  
IIAB Coarsest Octahedrite  
Total weight recovered – over 50 000kg



SACR  
Eddy c  
Found  
IIIA Iron  
Sample





Stony Meteorites

Stony Iron Meteorites

10000  
Lunar Meteorite, USA  
Found in 1969  
Total weight recovered - 10g

11000  
Lunar Meteorite, USA  
Found in 1969  
Total weight recovered - 10g

12000  
Mars meteorite  
Found on 21 July 2000  
18:45 local time  
Mars Ordinary Chondrite

13000  
Lunar Meteorite, USA  
Found in 1969  
Total weight recovered - 10g

14000  
Lunar Meteorite, USA  
Found in 1969  
Total weight recovered - 10g

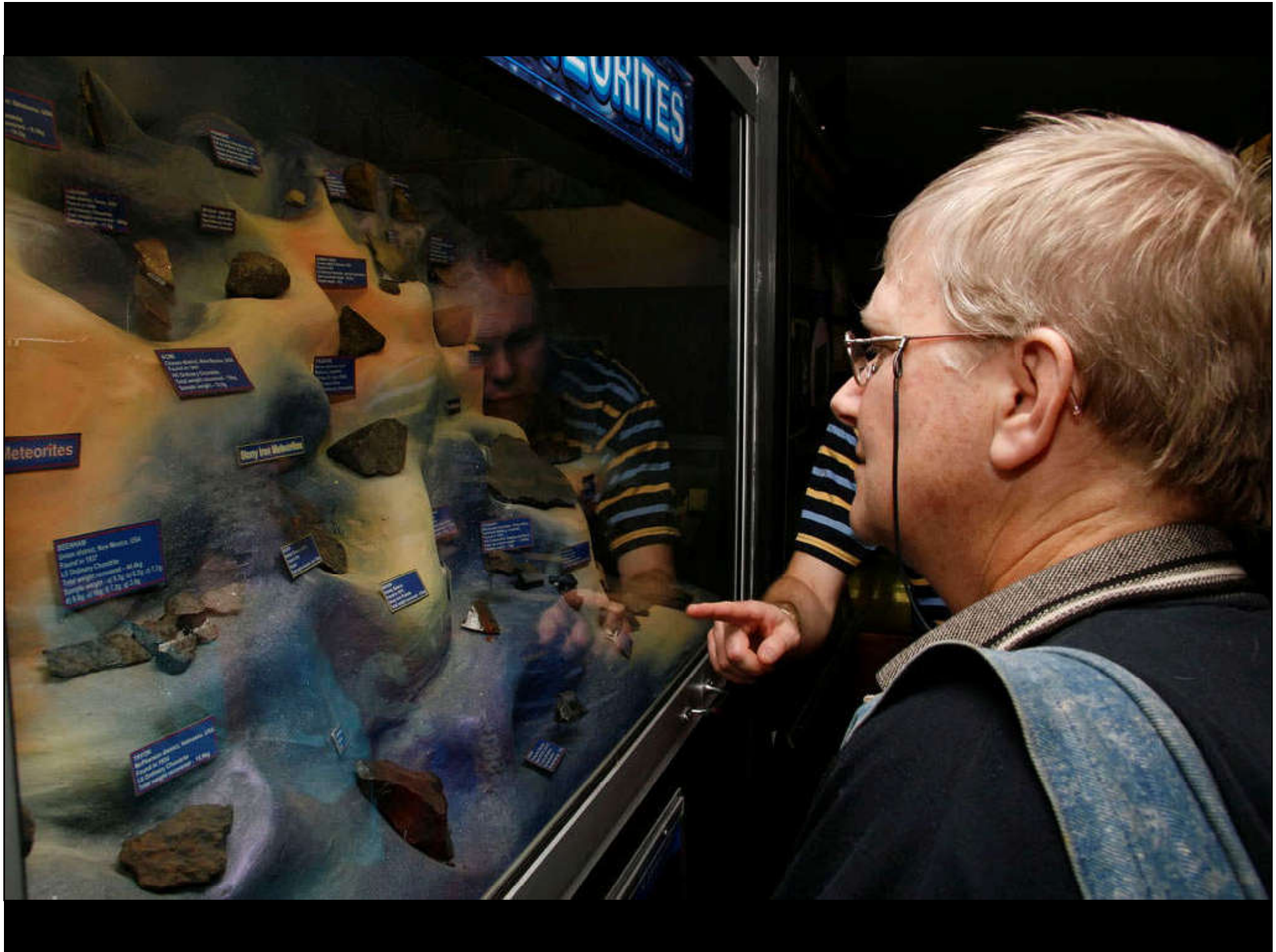
15000  
Lunar Meteorite, USA  
Found in 1969  
Total weight recovered - 10g

16000  
Gross Meteorite, Nevada  
Found 1820-1830  
FVS Iron  
Total weight recovered - 54 000g  
Sample weight - 100g























# Iron Meteorites

**GIBEON**  
Great Namaqualand, Namibia  
Found in 1838  
IV A Iron, Fine Octahedrite

**IRON DIABLO**  
USA  
Found in 1891  
Octahedrite, coarse (2.0mm)  
Original weight - 30,000kg  
Current weight - 102.4g





HOBA  
Grootfontein, Namibia  
Found 1920-1929  
IVB Iron  
Total weight recovered – 54 000kg  
Sample weight – 105g







**MONZE**  
Southern Province, Zambia  
Fell on 5 October 1950  
L6 Ordinary Chondrite

**MERWEVILLE**  
Farm Waterval near Merweville,  
South Africa  
Found in 1977  
L5 Ordinary Chondrite  
Total weight (single body) - 7.04kg





































# Meteorite classification 1

## How was it discovered?

- Falls (~1050; ~500 p.y., with 1% recovery)
  - observed in flight
  - sometimes hits objects
  - sometimes the object of intense competition (wait for Part 2 ...)
- Finds (>30 000)
  - picked up ... reference to a fall event; can ... post-fall
  - most effective ... for non-magnetic m...













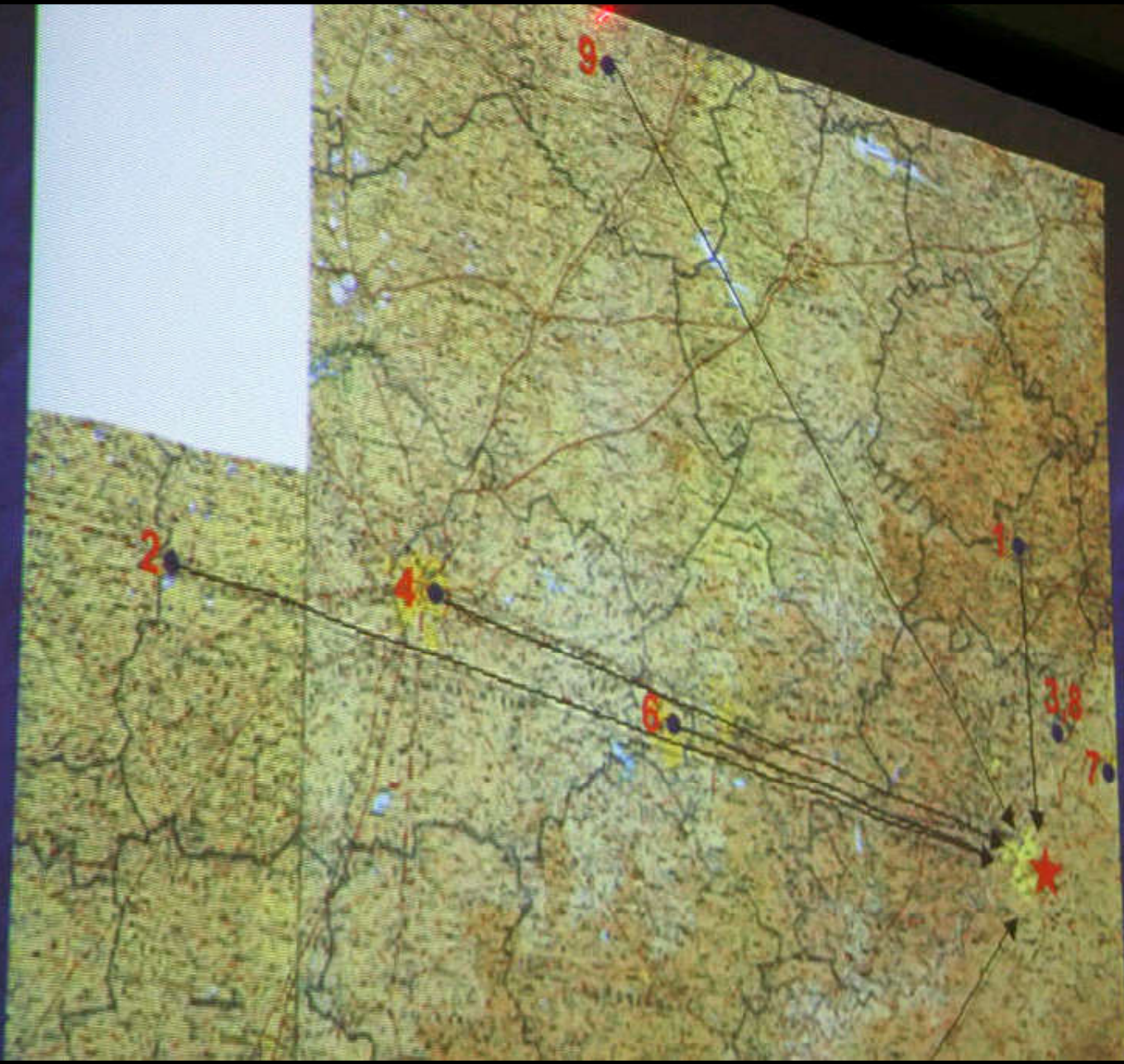


No.	Date	Time (SAST)	Location of Observer	Bearing from observer	Fireball Duration	Fireball Colour	Velocity	Sounds, shock waves or other general comments
1	21 July '02	15.50	Farm on Clocolan Marquard Road	175° Moving vertically downwards	4 sec	White	Fast	None
2	21 July '02	15.48	Bloemfontein / Petrusburg Road	098° Moving vertically downwards	5 sec	White	Very fast	None
3	21 July '02	15.50	Farm in Ladybrand district on Lesotho border	n/a	n/a	n/a	n/a	Shock waves felt
4	21 July '02	15.50	Loch Logan, Bloemfontein	100°	2 sec	White with orange tail	Fast	None
5	21 July '02	15.50	Rouxville Smithfield Road	022°	n/a	n/a	n/a	None
6	21 July '02	15.50	Botshabelo Mountain	095°	2 sec	White	Fast	None
7	21 July '02	15.50	SAA Pilot between Ficksburg and Maseru	Moving vertically downwards	n/a	Light orange	Fast	Flare through motor smoke
8	21 July '02	15.50	Farm in Ladybrand District	n/a	n/a	n/a	n/a	Loud sound
9	21 July '02	15.50	Farm in Theunissen District	150°	4 sec	White	Fast	None

TABLE OF THE ELEMENT

No.	Date	Time (SAST)	Location of Observer	Heading from observer	Final Duration	Final Colour	Visibility	Special, cloud, haze or other special comments
1	21 July '02	15:50	Farm on Okavango-Mogwed Road	170° Moving vertically downwards	4 sec	White	Fair	None
2	21 July '02	15:48	Blenkwater/Putsohang Road	090° Moving vertically downwards	5 sec	White	Very Good	None
3	21 July '02	15:50	Farm in Luder's district on Lesotho border	n.a.	n.a.	n.a.	n.a.	Black, white, etc.
4	21 July '02	15:50	Luch Logan, Blenkwater	190°	2 sec	White with orange tail	Fair	None
5	21 July '02	15:50	Rosenville Southfield Road	020°	n.a.	n.a.	n.a.	None
6	21 July '02	15:50	Bobbejaals Mooraine	090°	2 sec	White	Fair	None
7	21 July '02	15:50	SAA Pit between Ficksburg and Maseru	Flowing vertically downwards	n.a.	Light orange	Fair	Very bright, rather weak
8	21 July '02	15:50	Farm in Luder's District	n.a.	n.a.	n.a.	n.a.	Low wind
9	21 July '02	15:50	Farm in Tharobos District	150°	4 sec	White	Fair	None





## OBTAINING THE SAMPLES

- Two trips were made
- Paid a R150.00 for 1.2kg
- Costs today ([www.meteoriteguy.com/catalog/thuathe.htm](http://www.meteoriteguy.com/catalog/thuathe.htm))
  - 168g = \$1300.00
  - 80.11g = \$640.00



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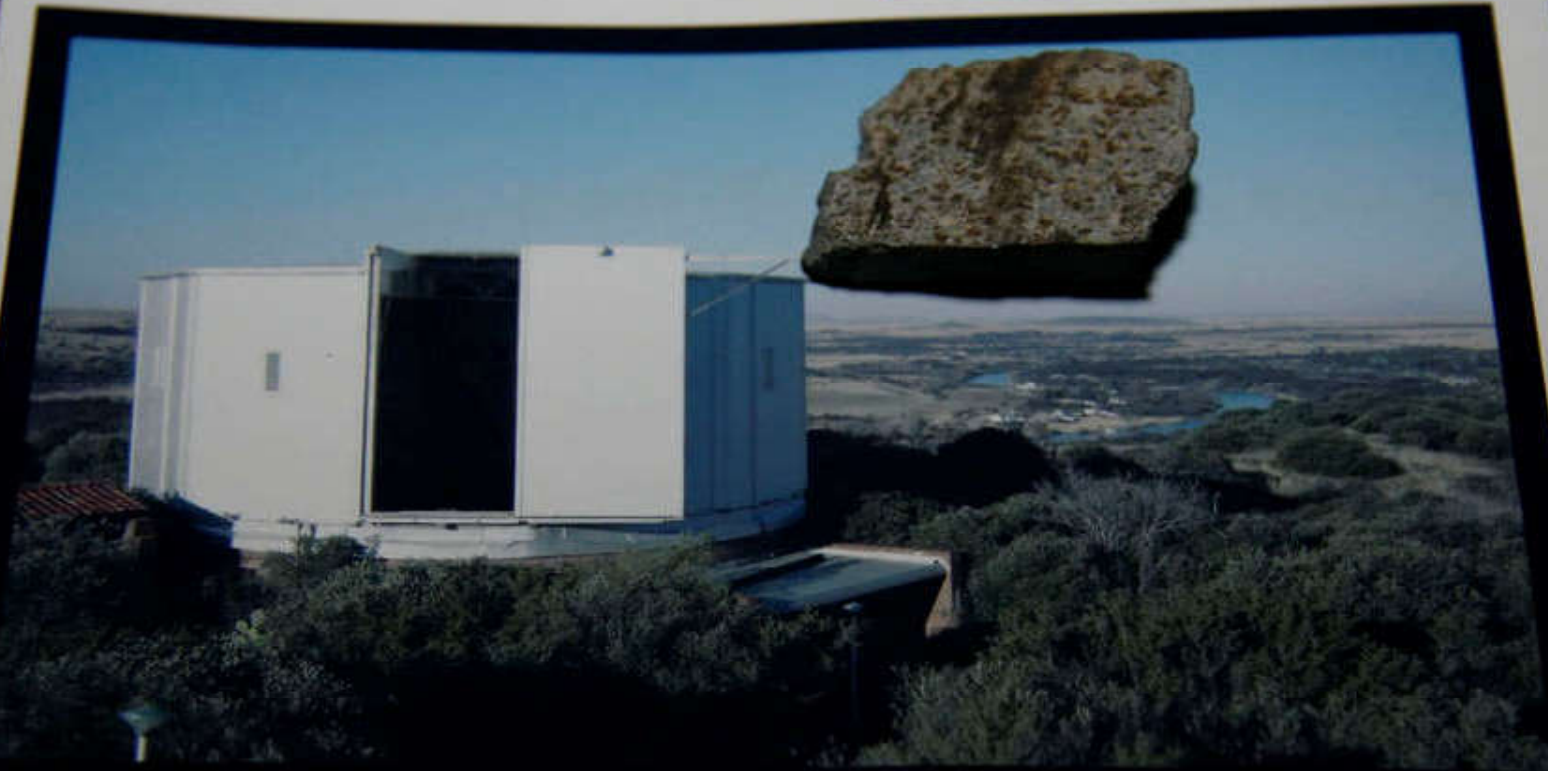












*Dome of the 60 inch at Boyden*

**Speaker: 7<sup>th</sup> ASSA Symposium**  
**28-30 September 2006**  
**Boyden Observatory, Bloemfontein**





























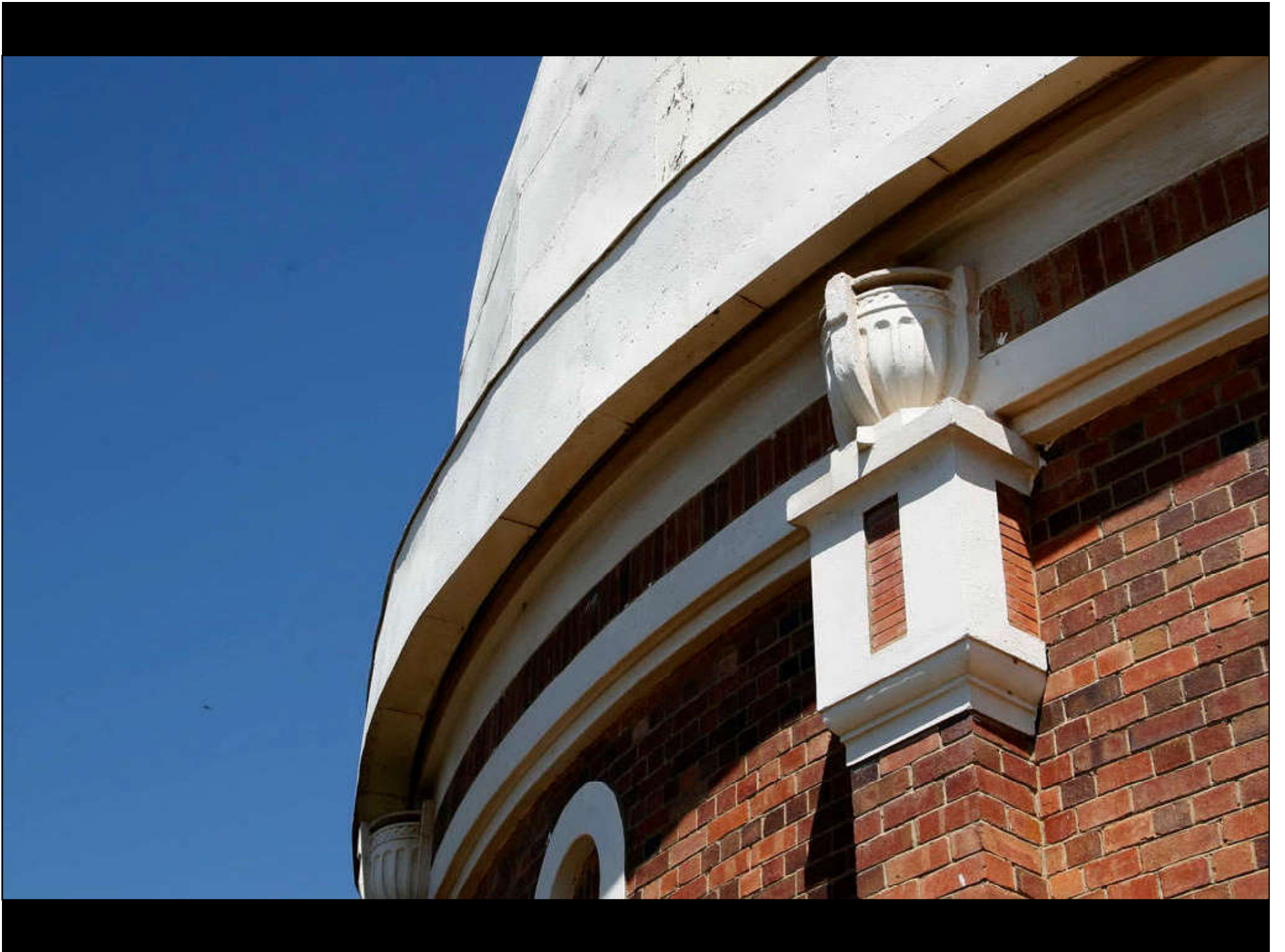






















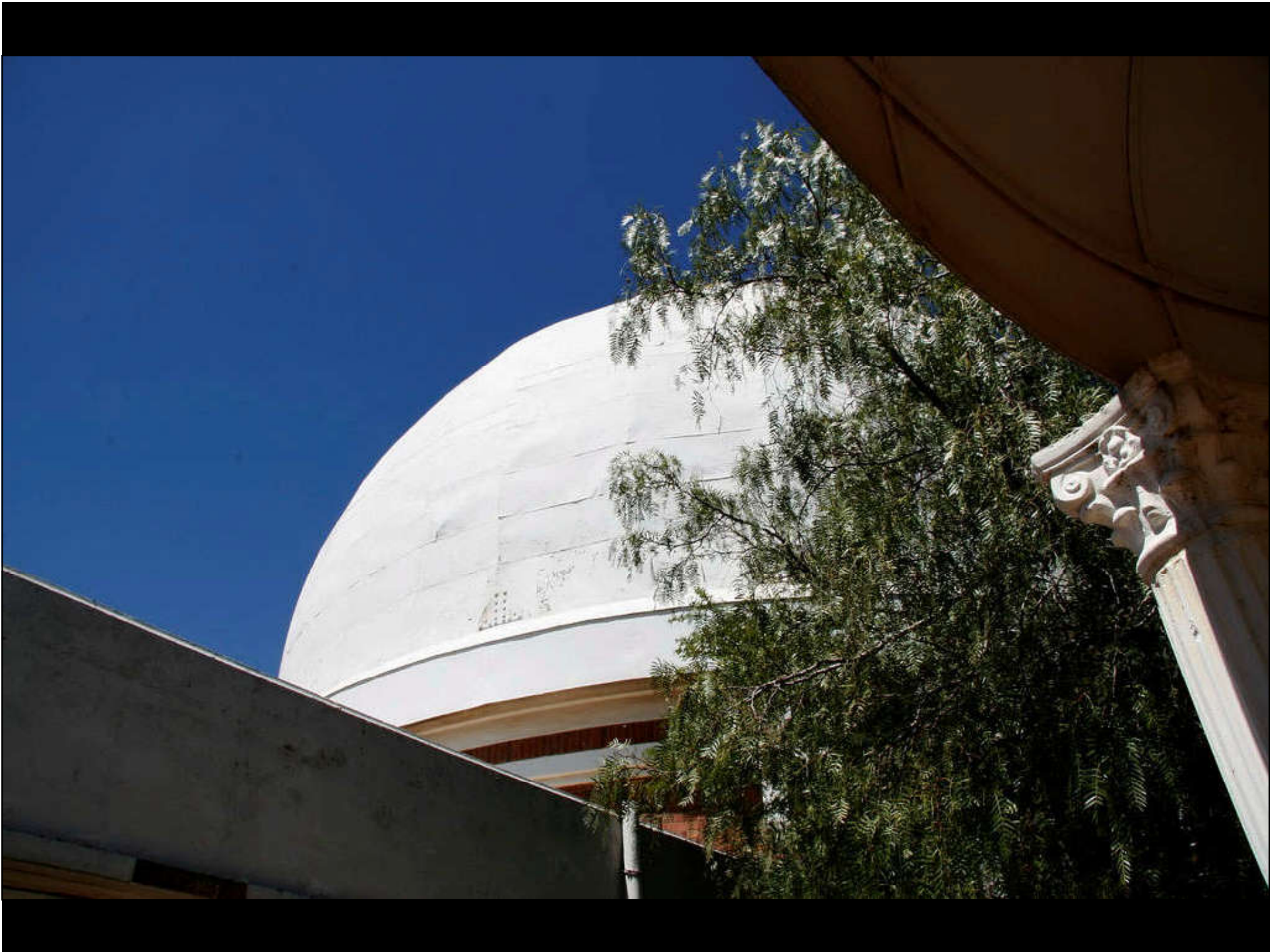


























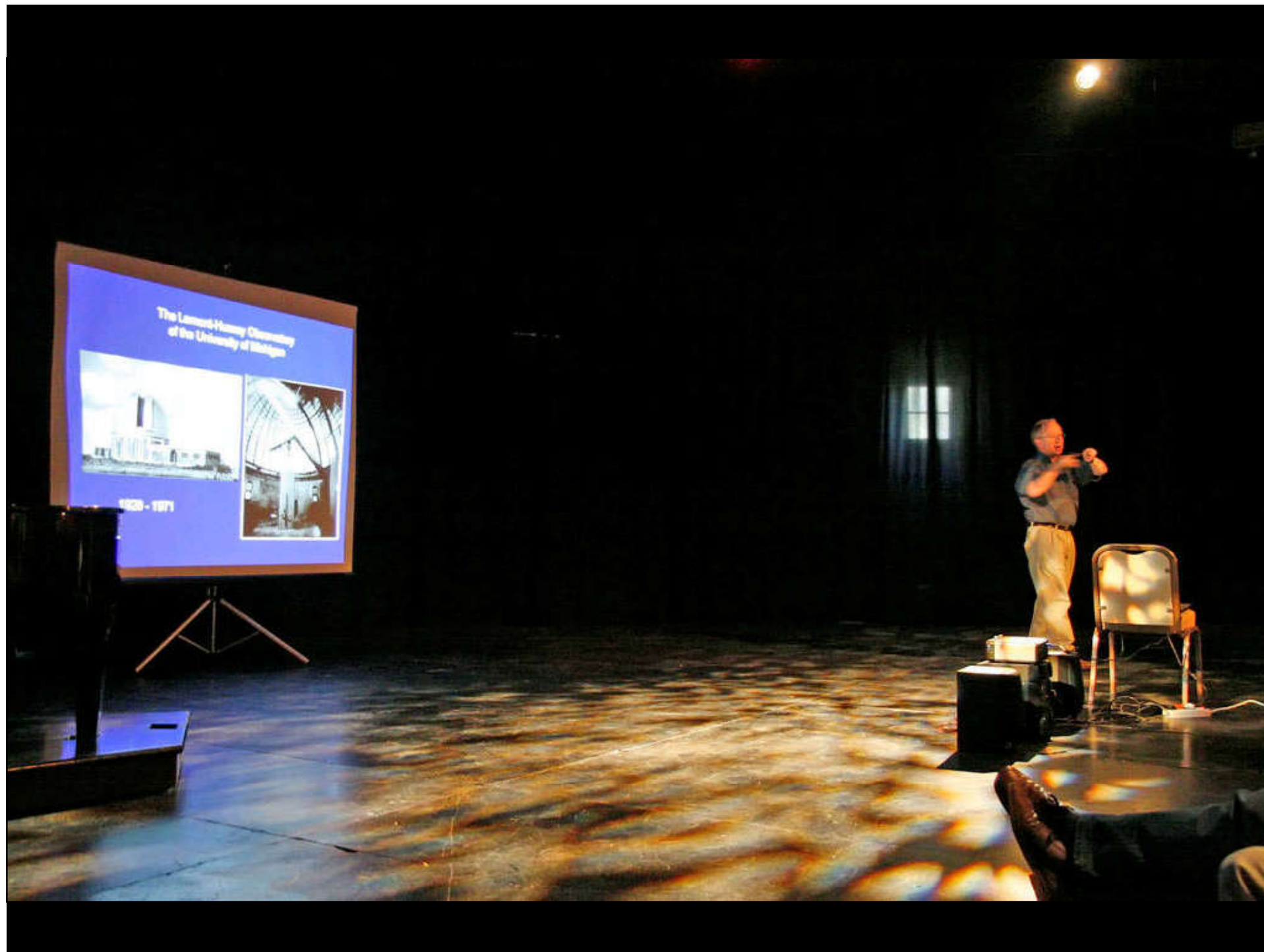












The Leonard-Horsey Chemistry  
of the University of Michigan

1928 - 1971





The Lamont-Hussey Observatory  
of the University of Stirling



1928 - 1971





