

The background is an abstract composition. It features a dark, textured base, possibly black or dark grey. Overlaid on this are various elements: large, crinkled areas of gold leaf or metallic paint, particularly on the left and right sides. In the center-right, there is a cluster of dark, circular shapes that resemble bubbles or stones. Below these, there is a faint, light-colored pattern that vaguely suggests a human face, with two dark circles for eyes and a curved line for a mouth. The overall color palette is dominated by dark tones, gold, and a hint of light beige or cream.

From looking glass to mirror

A BRIEF INTRODUCTION TO REFLECTION

Rodney Bender © 11/10/2018

Mirror

- ✧ A brief history of reflection
- ✧ The Mirror in Art and Architecture
- ✧ The Mirror in Science
- ✧ Other types of Mirror



John William Waterhouse

Matthew Collishaw

Echo and Narcissus



She named this child Narcissus. Gossips came to Tiresias: 'Can her boy live long with such perfect beauty?'

The seer replied: 'Yes, unless he learns to know himself' Ted Hughes 'Tales From Ovid'

A Brief history of reflection



Egyptian
and Roman looking
glasses of Bronze





Tezcatlipoca aka 'Smoking Mirror'
Aztec deity



Obsidian Mirror

AD 1351 - 1521 British Museum



Mosaic Mask of Tezcatlipotica

British Museum

Dr John DEE

Obsidian Aztec Skrying Mirror

This mirror was used by the Elizabethan mathematician, astrologer and magician John Dee (1527-1608/9) as a 'shew-stone', one of many polished translucent or reflective objects which he used as tools for his occult research.

British Museum





Venice

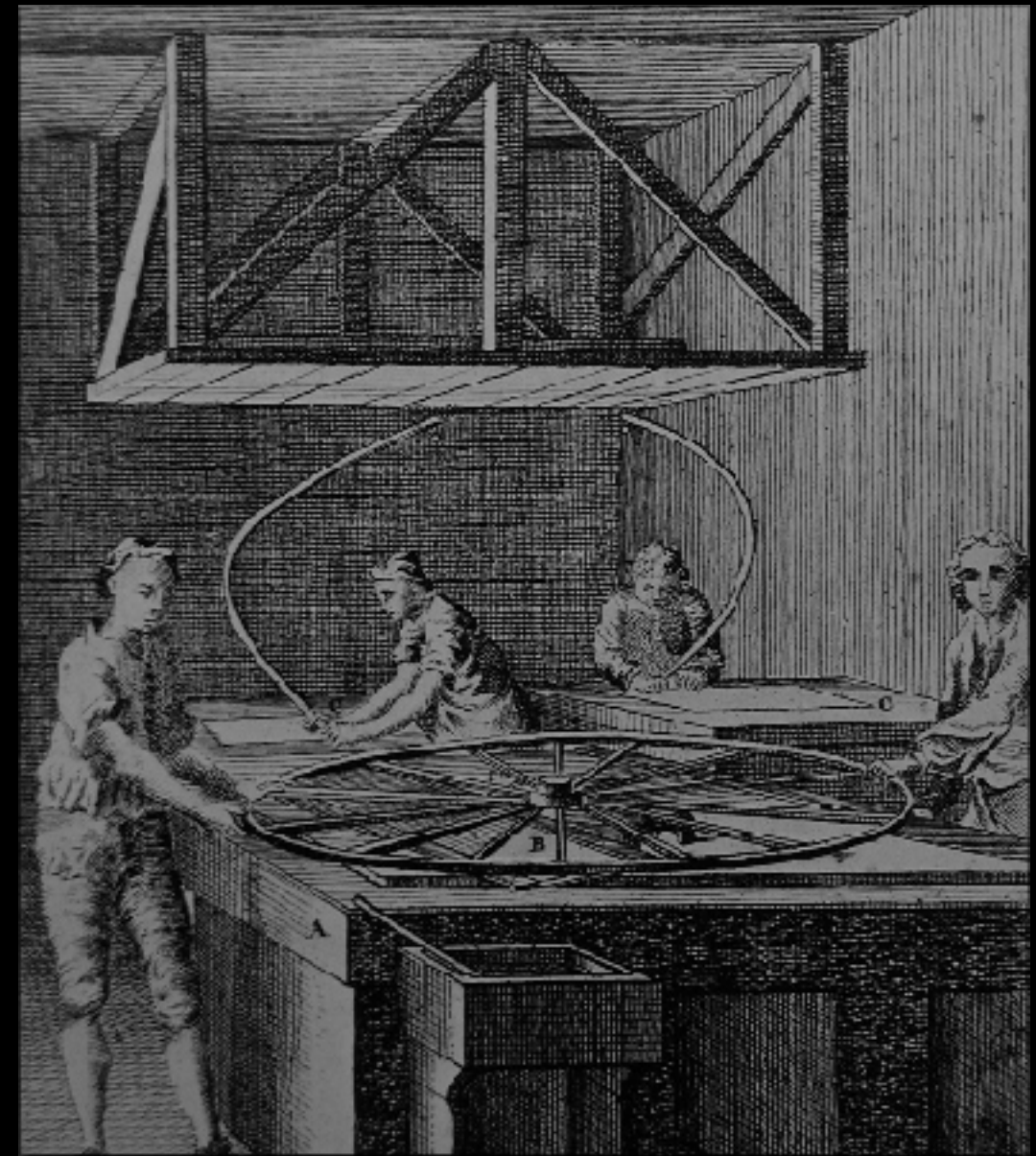
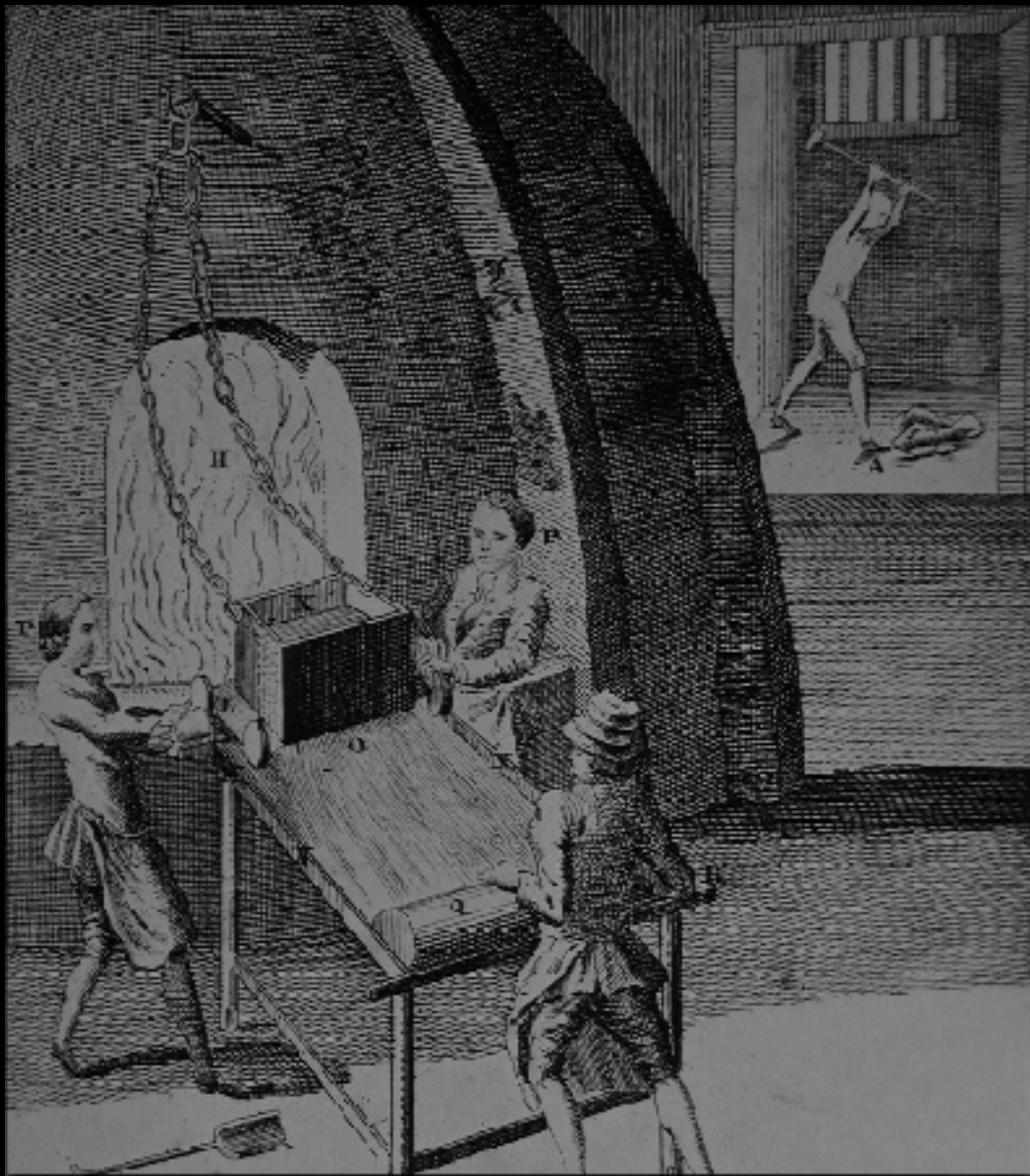
In the C15 th and C16th Venice became the centre for Mirror production in the world:

Development of Crystallo Glass and Mercury Tin Amalgam



Hall of Mirrors Palace of Versailles

The Sun King steals the secret of making Mirrors and sets up a factory in France, St. Gobain



Glass Making

The developing technology of glass making allowed for larger mirror production



Antique mirrors

The frame became as
important as the mirror.

Mirror deterioration
adds a patina of mystery



From Baroque and Rococo to Philippe Stark,
the mirror is still an essential element of interior
design

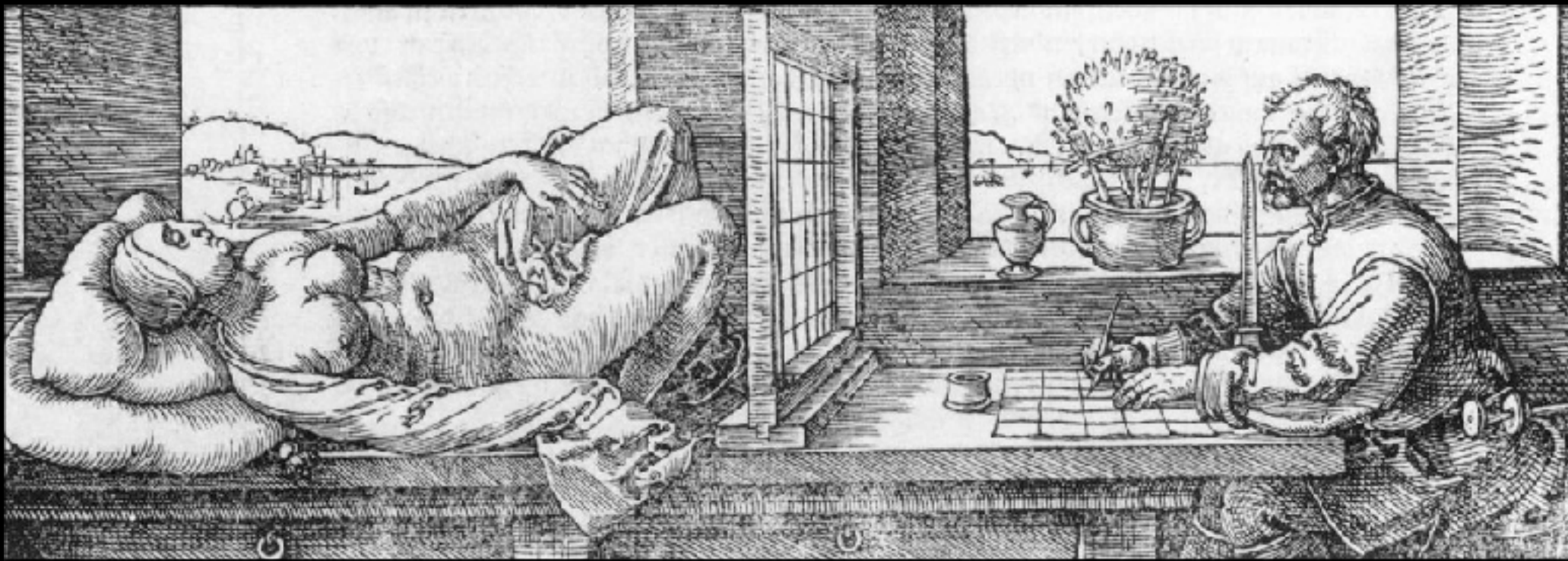
The Mirror in Art and Architecture



Artists were not adverse
to using technology to
improve their paintings



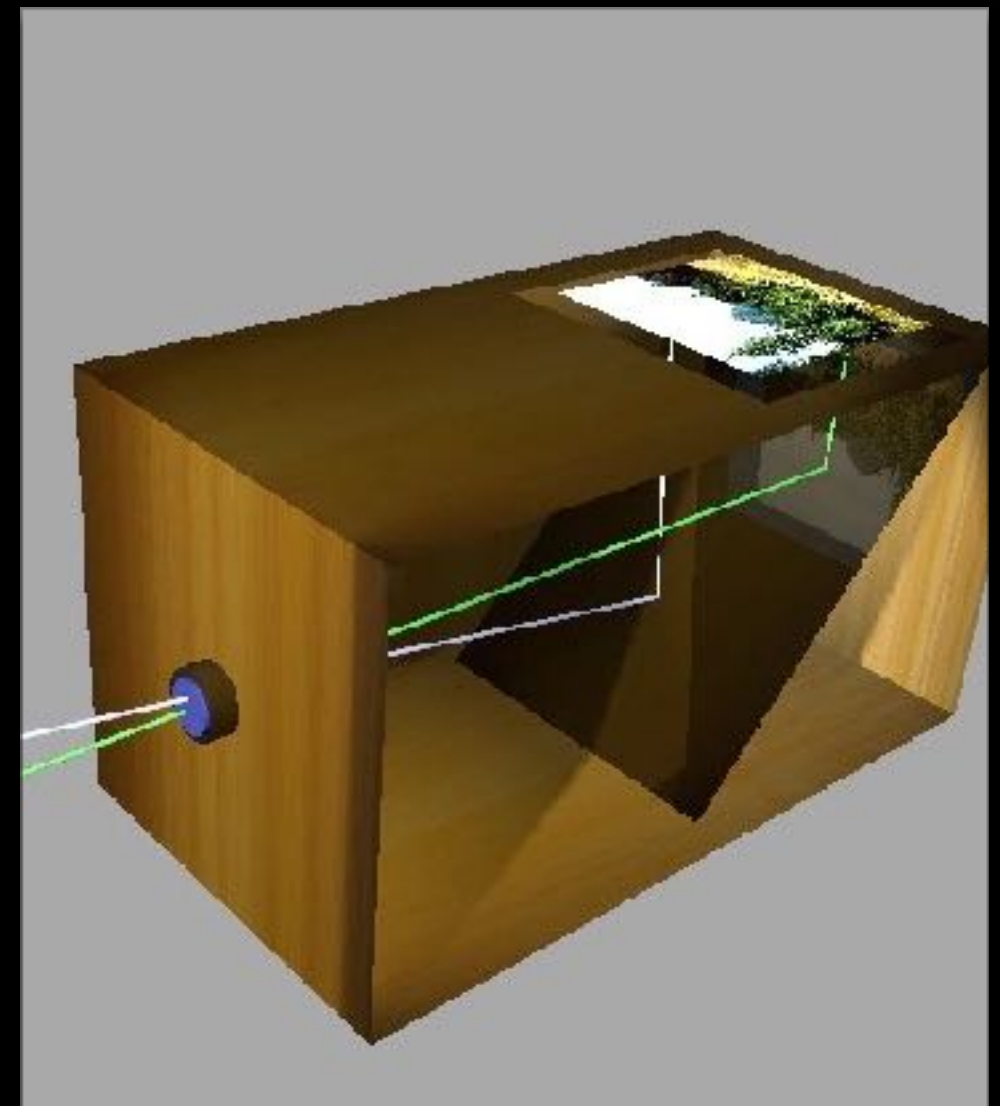
Jan Van Eyck
Arnolfini Wedding
C.1434



Albrecht Dürer
'Draftsman drawing a
Recumbent Woman' /
woodcut 1525

Camera Obscura

The lens and the
Mirror transformed
Western Culture and
lead to The
ENLIGHTENMENT

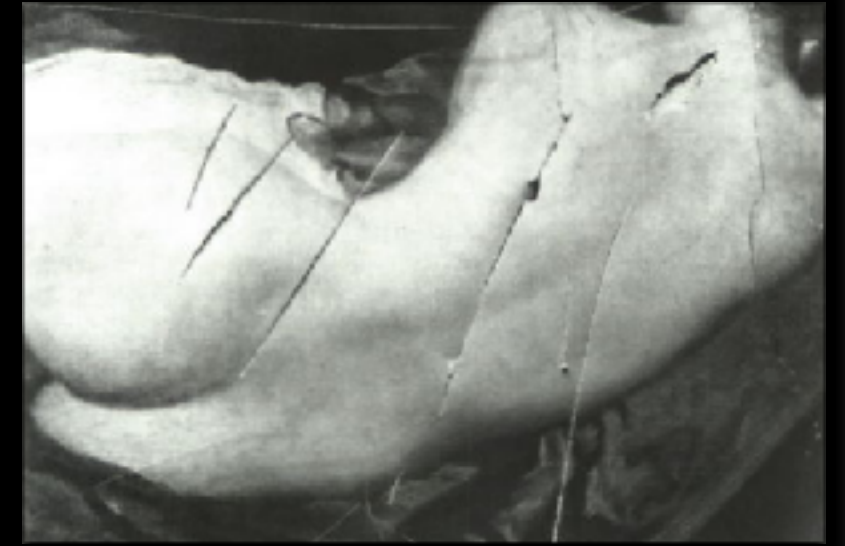




Claude Lorraine

1600 -82

Claude Glass used by landscape artist in the C18 as a tool for achieving subtle gradation of tone in landscape as exemplified by the landscapes of C. Lorraine



Mirror and eroticism / Male Gaze

'The Toilet of Venus' ('Rokeby Venus') by Velasquez
1647-51 National gallery London

Slashed by Mary Richardson in 1914 as a proto-feminist protest against the fetishisation of the female nude.

In its original (now restored) state, this painting is well-construed for fetishization: the back and buttocks are highlighted as objects, especially since the "subjecthood" or "personhood" of the female is lessened through the obscured face (which is not only turned from the viewer, but is represented in the mirror in a very blurry, undefined manner). Richardson's marks, however, challenge and defy this fetishization.

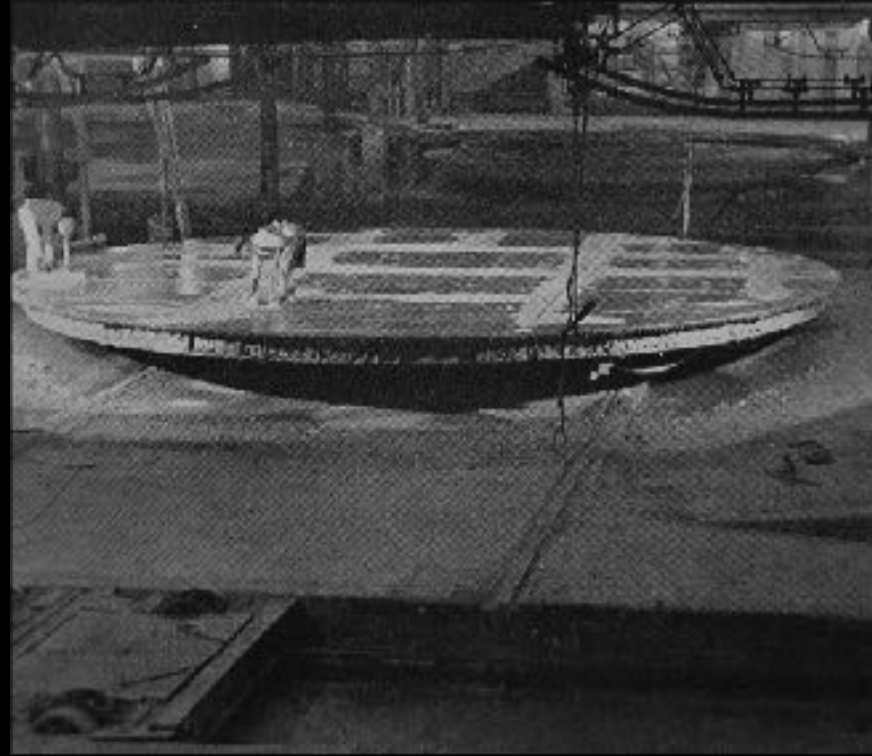


'A Bar at the Folies-Bergere'
Edouard Manet 1882

The French philosopher Maurice Merleau-Ponty has called a mirror 'the instrument of a universal magic that changes things into spectacles, spectacles into things, me into others, and others into me.'

Impressionism

The camera challenged the role of artist and led to new movements in art.



Industrial revolution

Advances in technology led to larger sheet sizes for 'plate glass' and in Britain repeal of taxes on glass led to increased use of glass in buildings.

This also coincided with the development of the Silvering Process by the German Chemist J. von Liebig in the 1850's



Victorian Gin Palaces

The common man's,
Palace of Versailles
Drunken interiors



Wales Millennium Centre, Cardiff

Mirror wall, Rodney Bender 2001



Glass acts as a
partial Mirror

Mies van de Rohe,
'Barcelona Pavilion' 1929
exploits the reflective
possibilities of material to
dematerialise space



Coated glass/
Buildings as mirror



Hard and soft
coatings



Anish
Kapoor

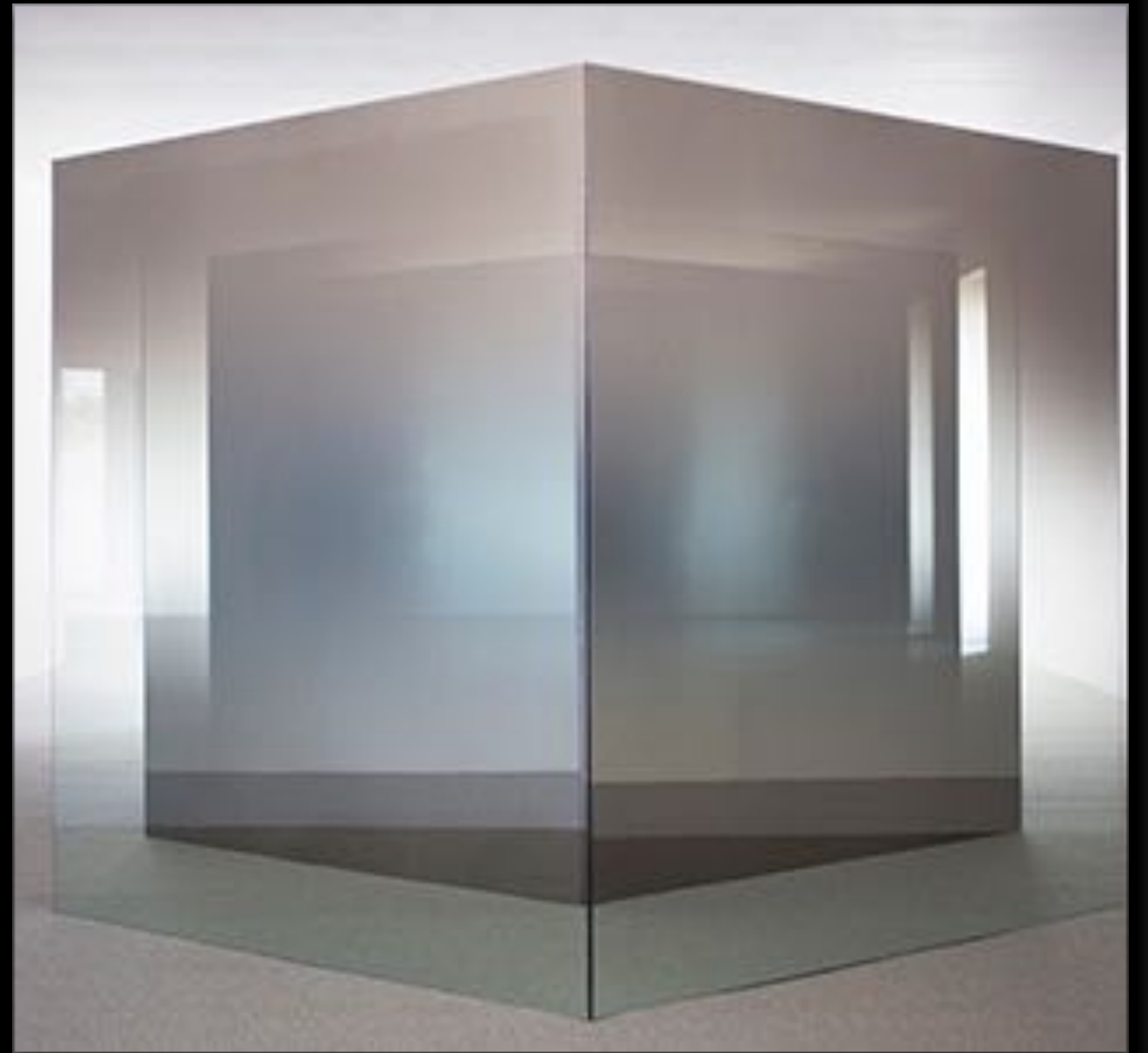


Boston bean & New
York sky mirror



'The Return' detail, Cass Sculpture Foundation 2013
Rodney Bender

Interference
coatings



Larry Bell boxes from the 1960's

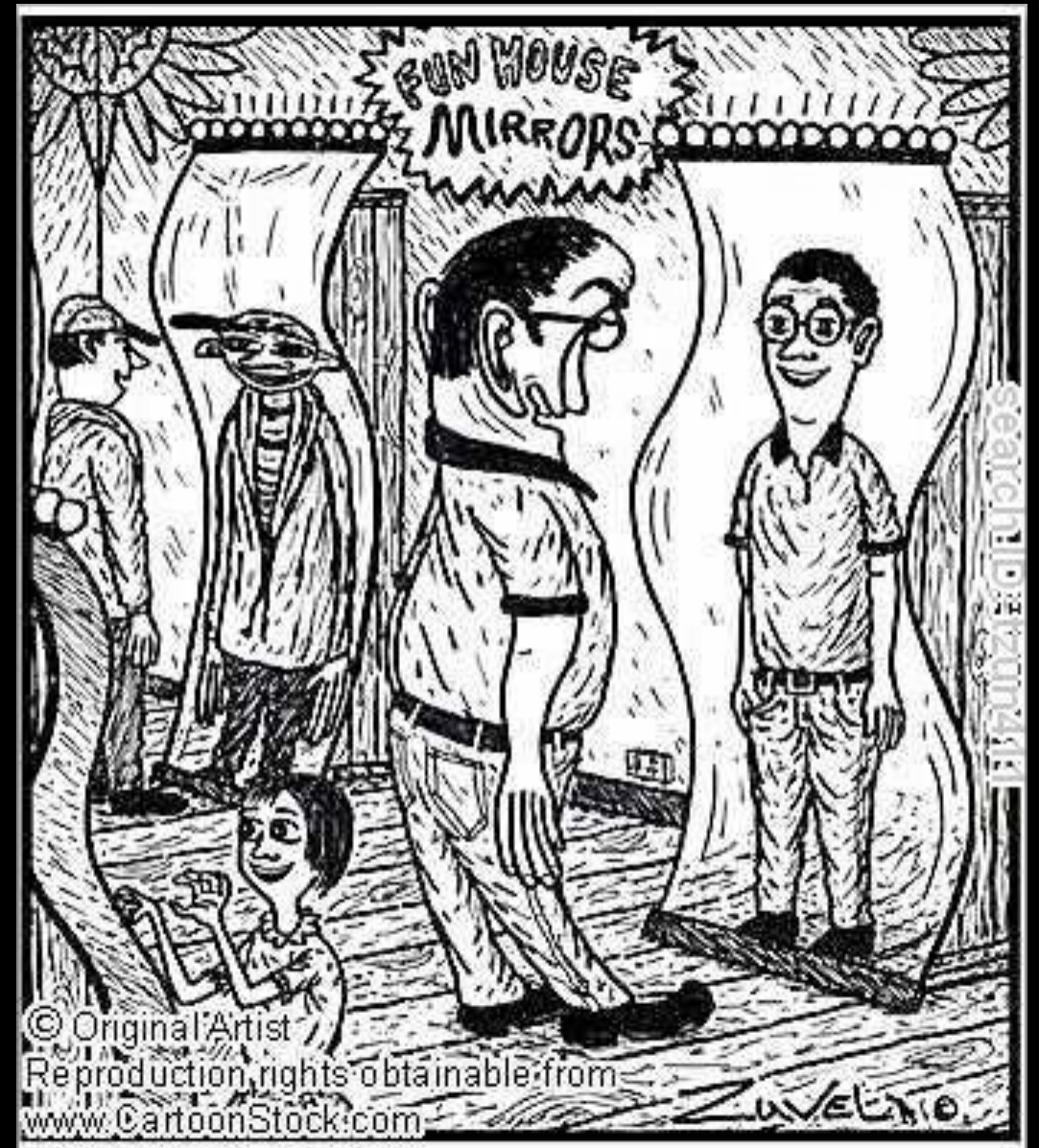
Glass sculpture to
dematerialise form

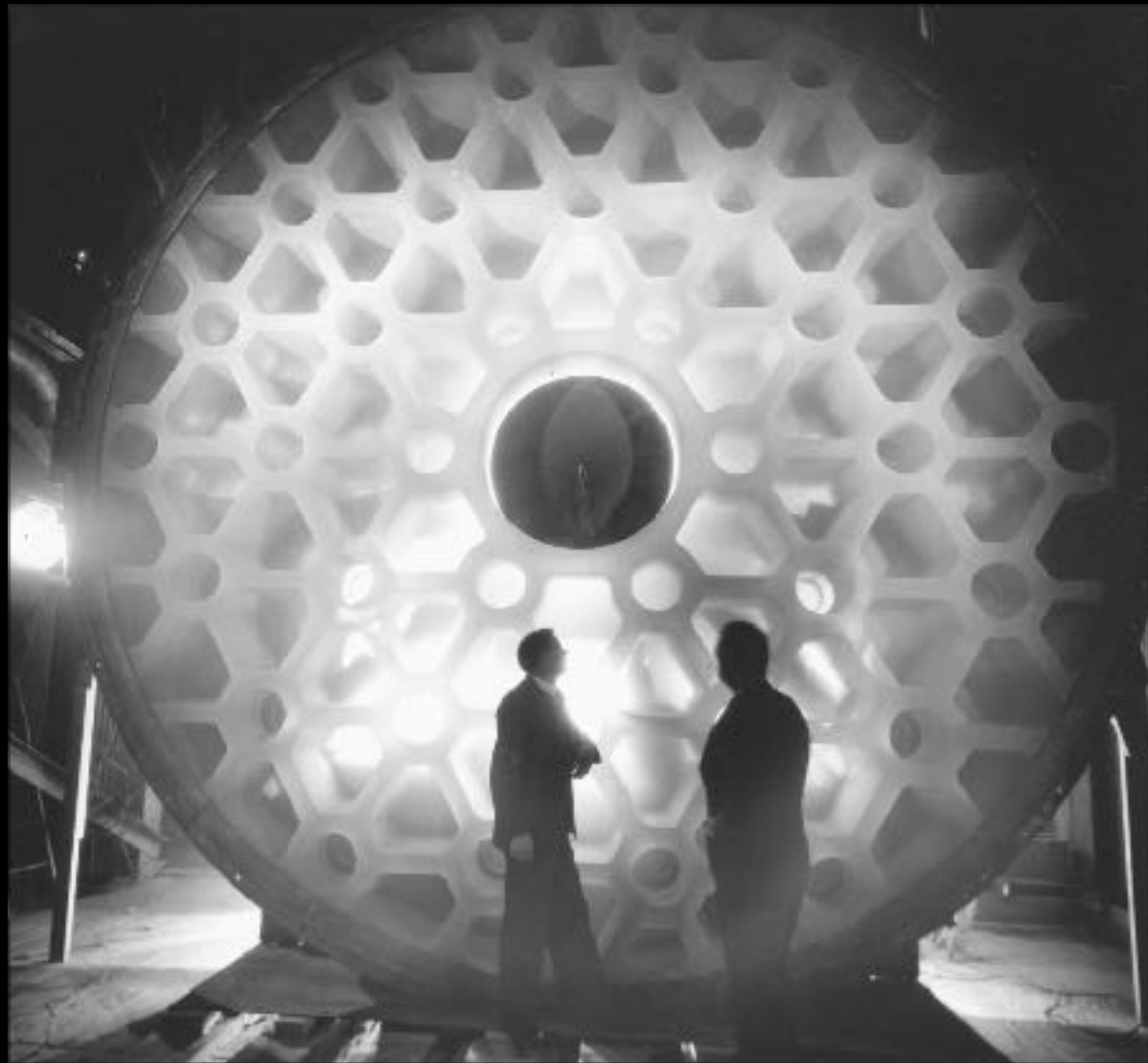


The Mirror in Science

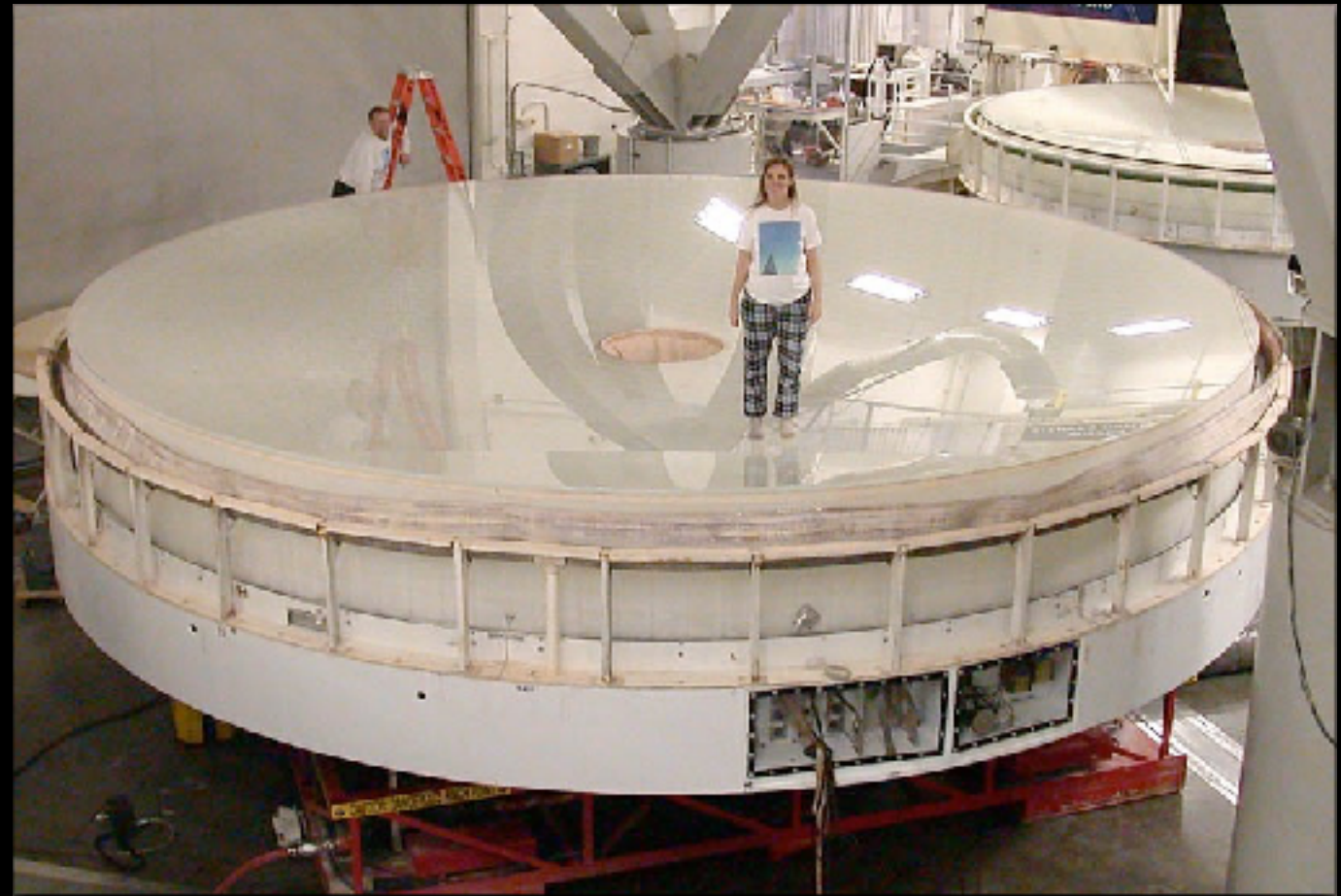
It's mostly about Waves

- ✦ The Microscope
- ✦ The Telescope
- ✦ The Camera
- ✦ Radar
- ✦ The Laser





Size matters

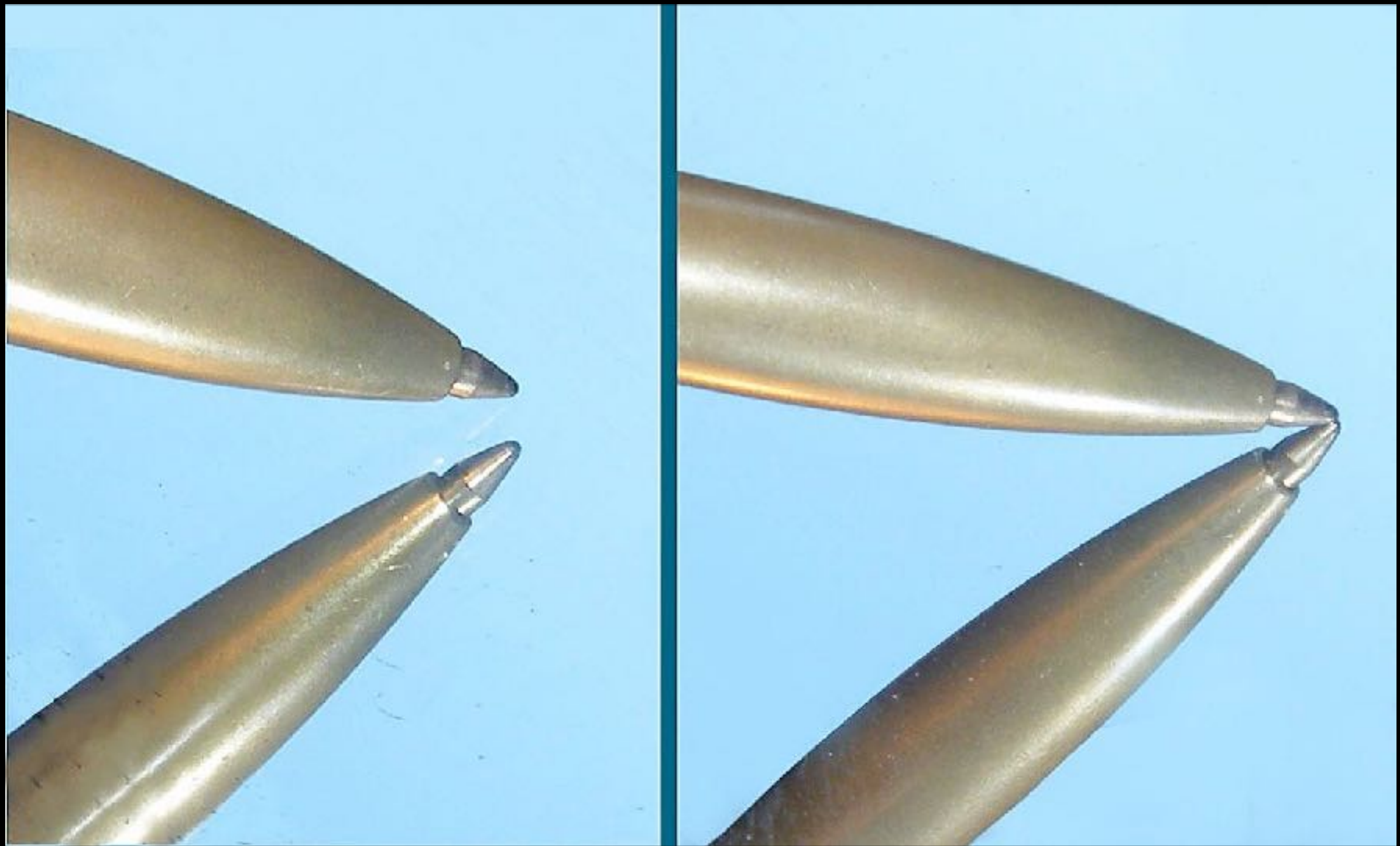


First surface mirrors
on reflecting
telescopes

First surface mirrors



Produced by vapour deposition of a metal in a Vacuum. Most commonly Aluminium.

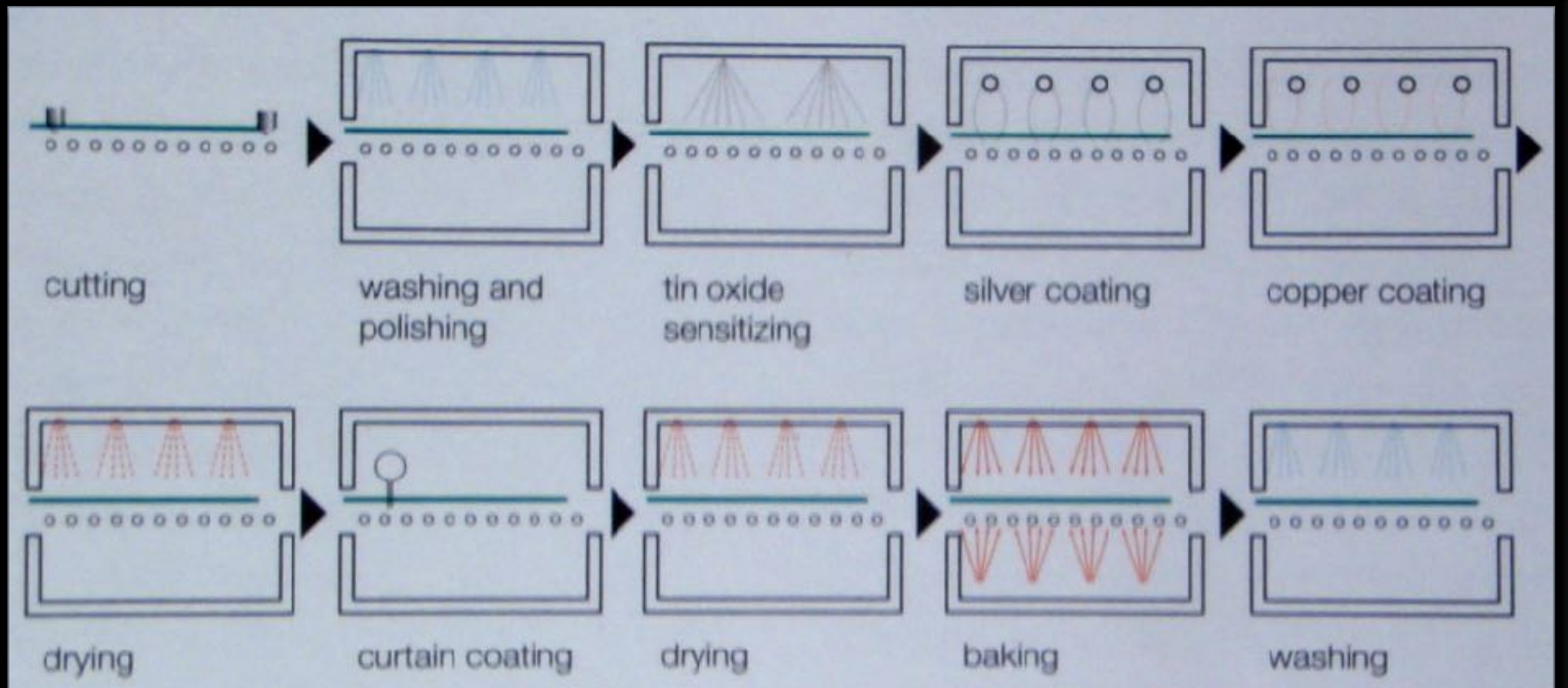


Second surface mirror on the left and First surface mirror on the right



True Mirror

Mirror image on the left and true image on the right

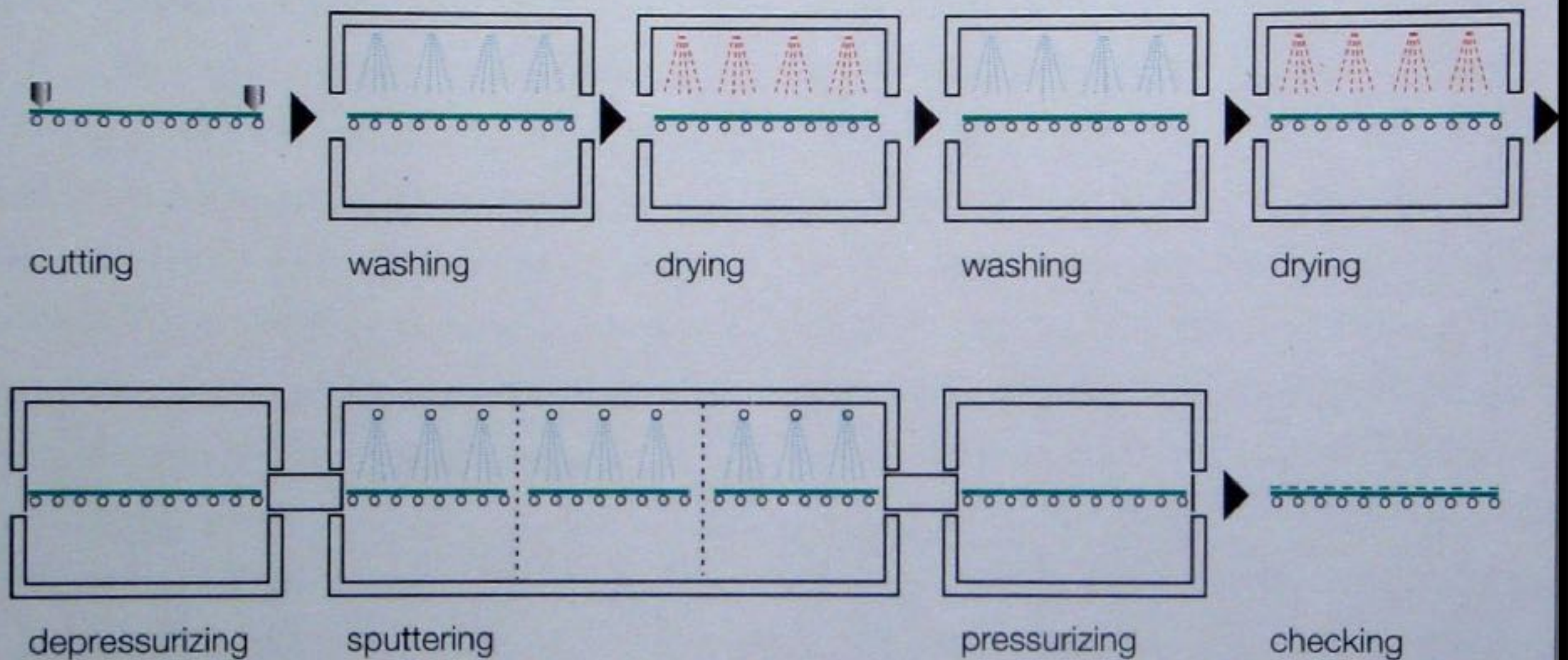


Traditional silvering plant

Most traditionally produced silver mirrors have a copper coating on top of the silver

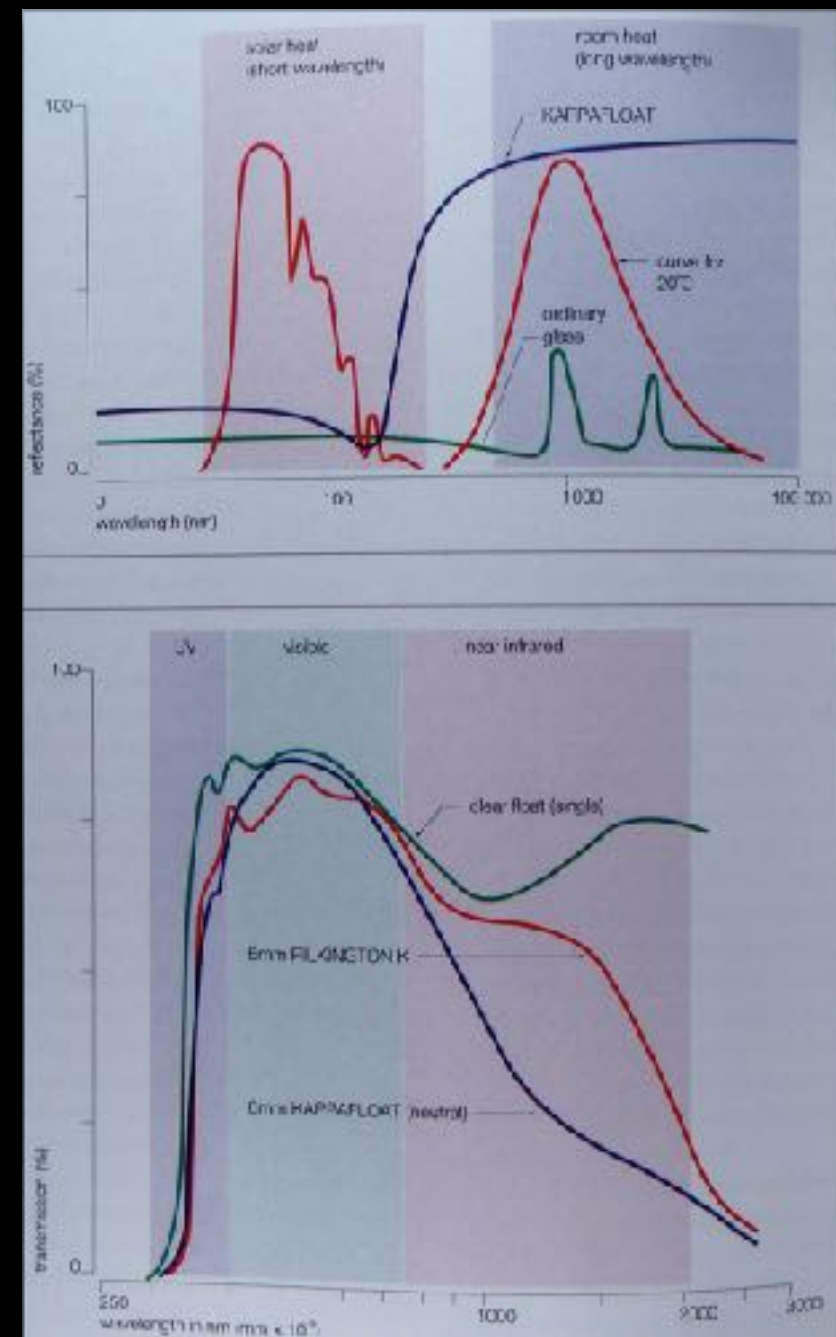
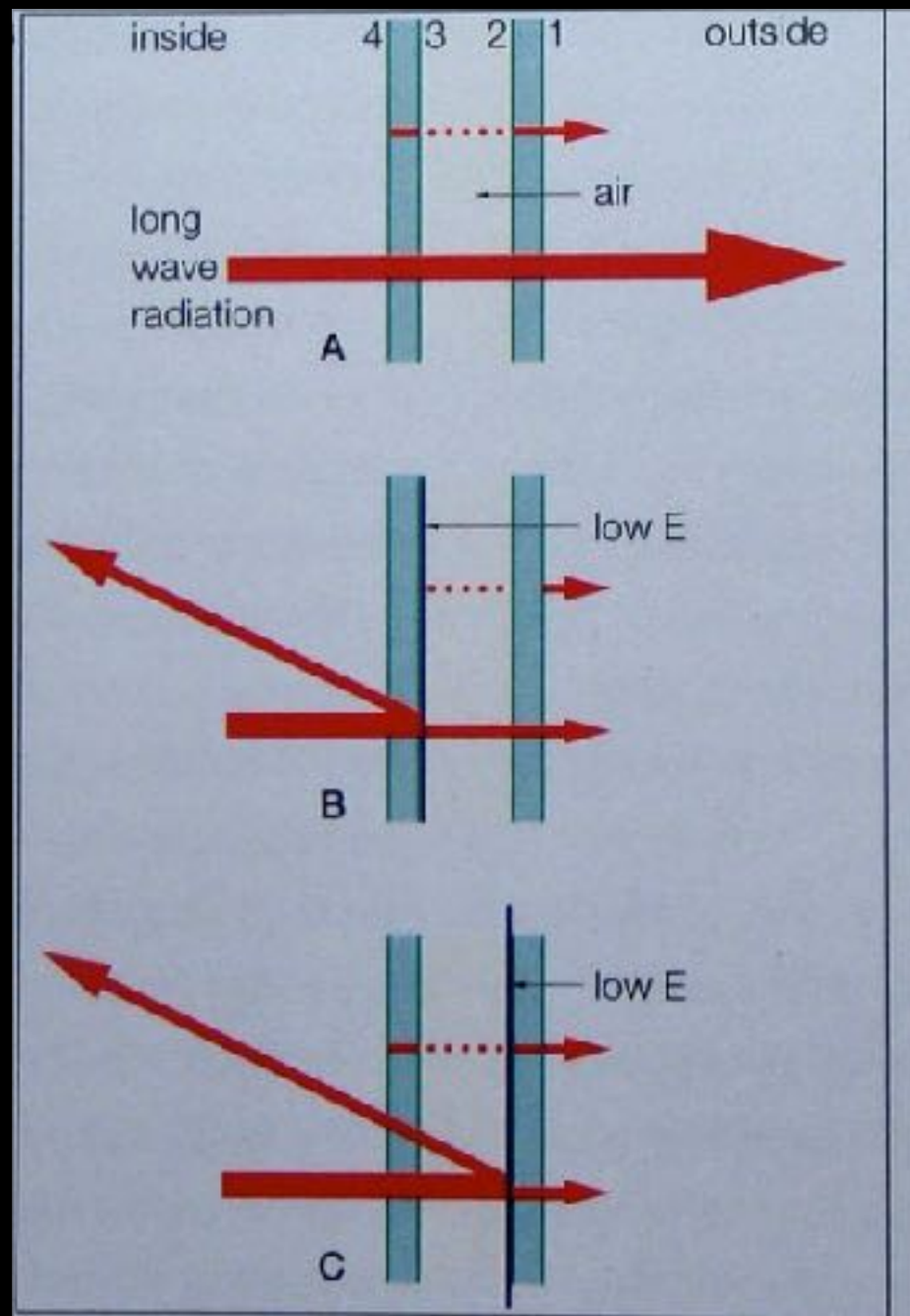






Sputter coating

Sputtering involving ion or plasma bombardment to create ultra thin films



Low E Glass

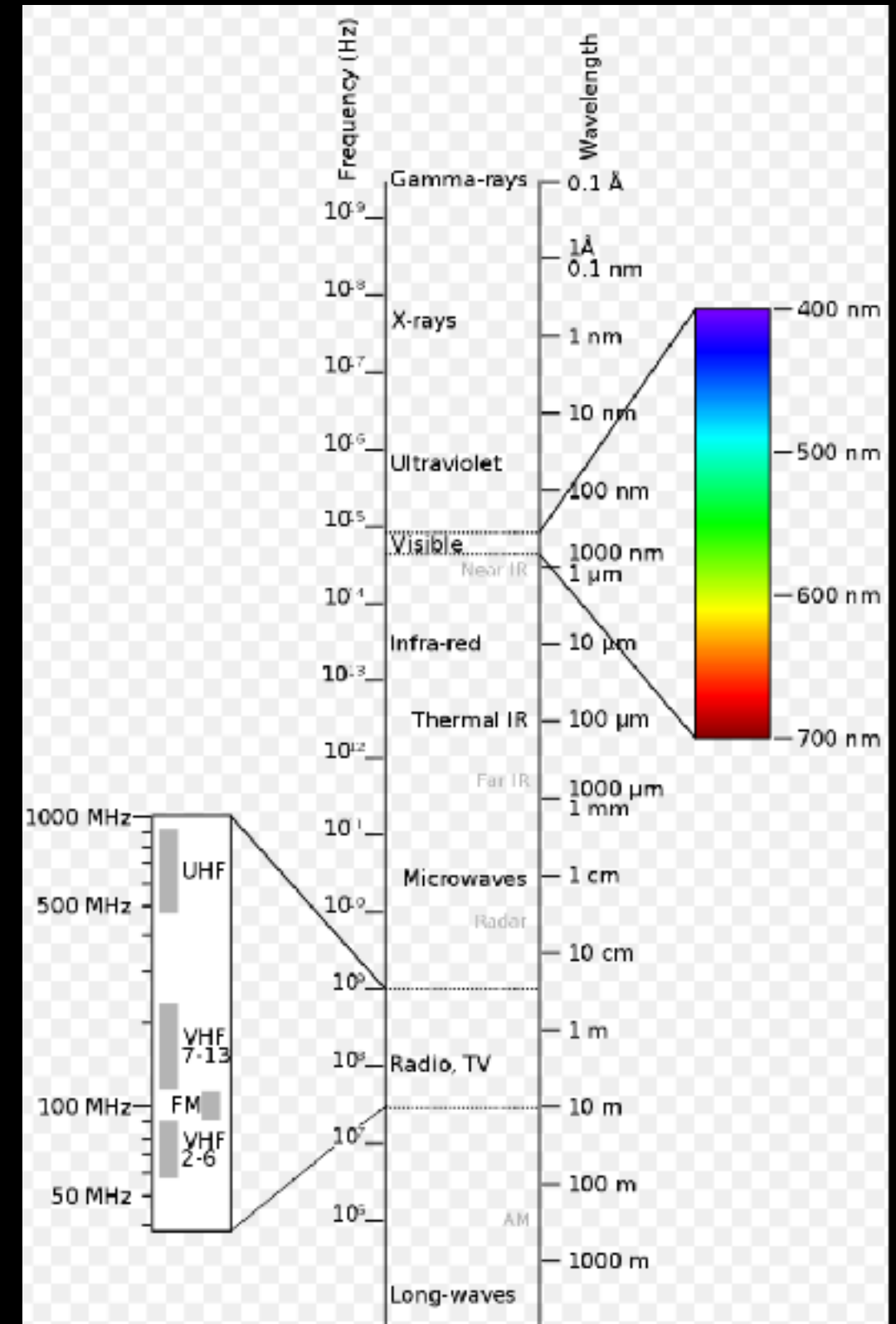
Commercially available low emissivity glasses such as Pilkington 'K' or St. Gobain's 'Planitherm' are manufactured with ultra thin coatings which act as mirrors for Infrared light. This can dramatically decrease the thermal loss from buildings.

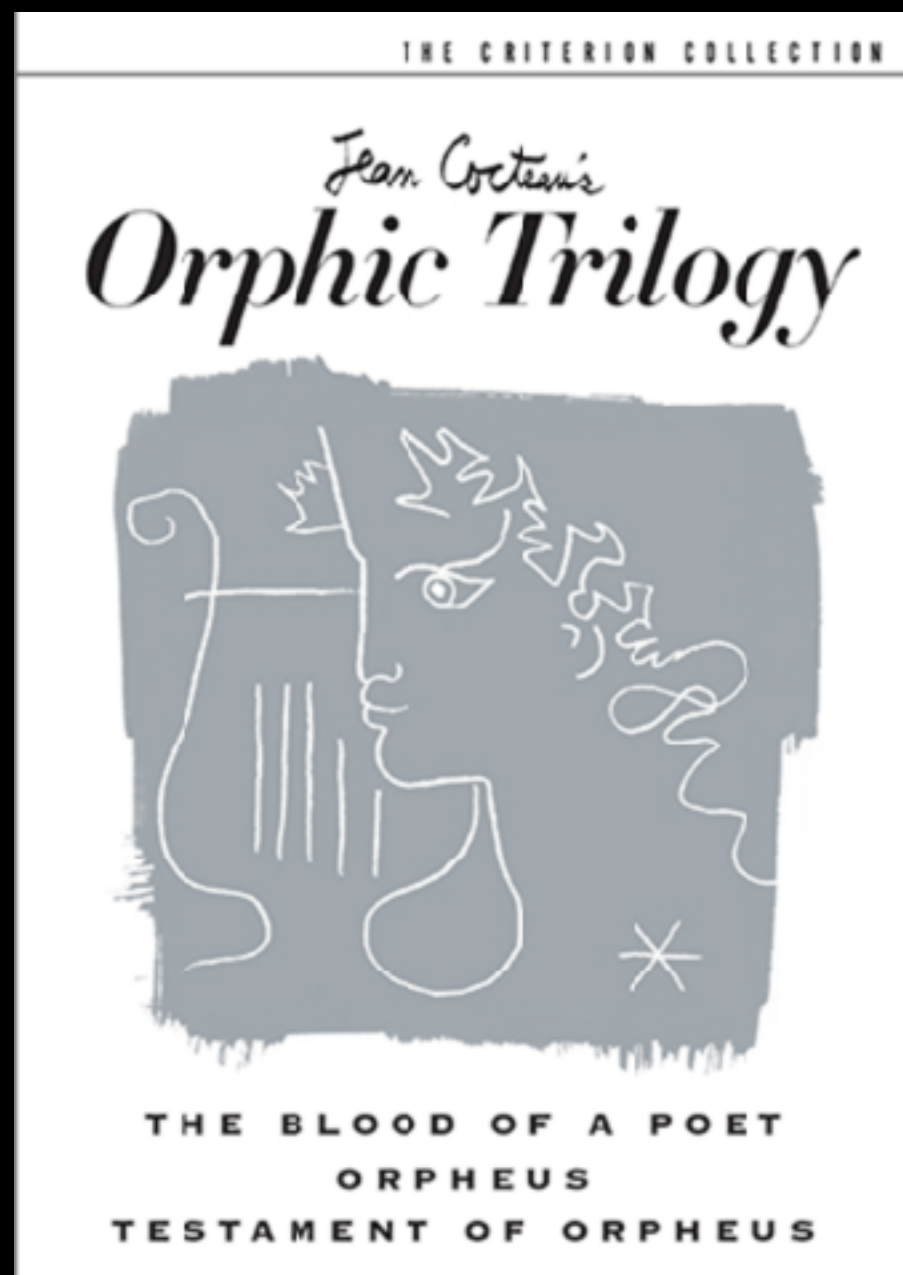


The Five-hundred-metre Aperture Spherical Telescope (FAST) in the southwestern province of Guizhou.

Other mirrors

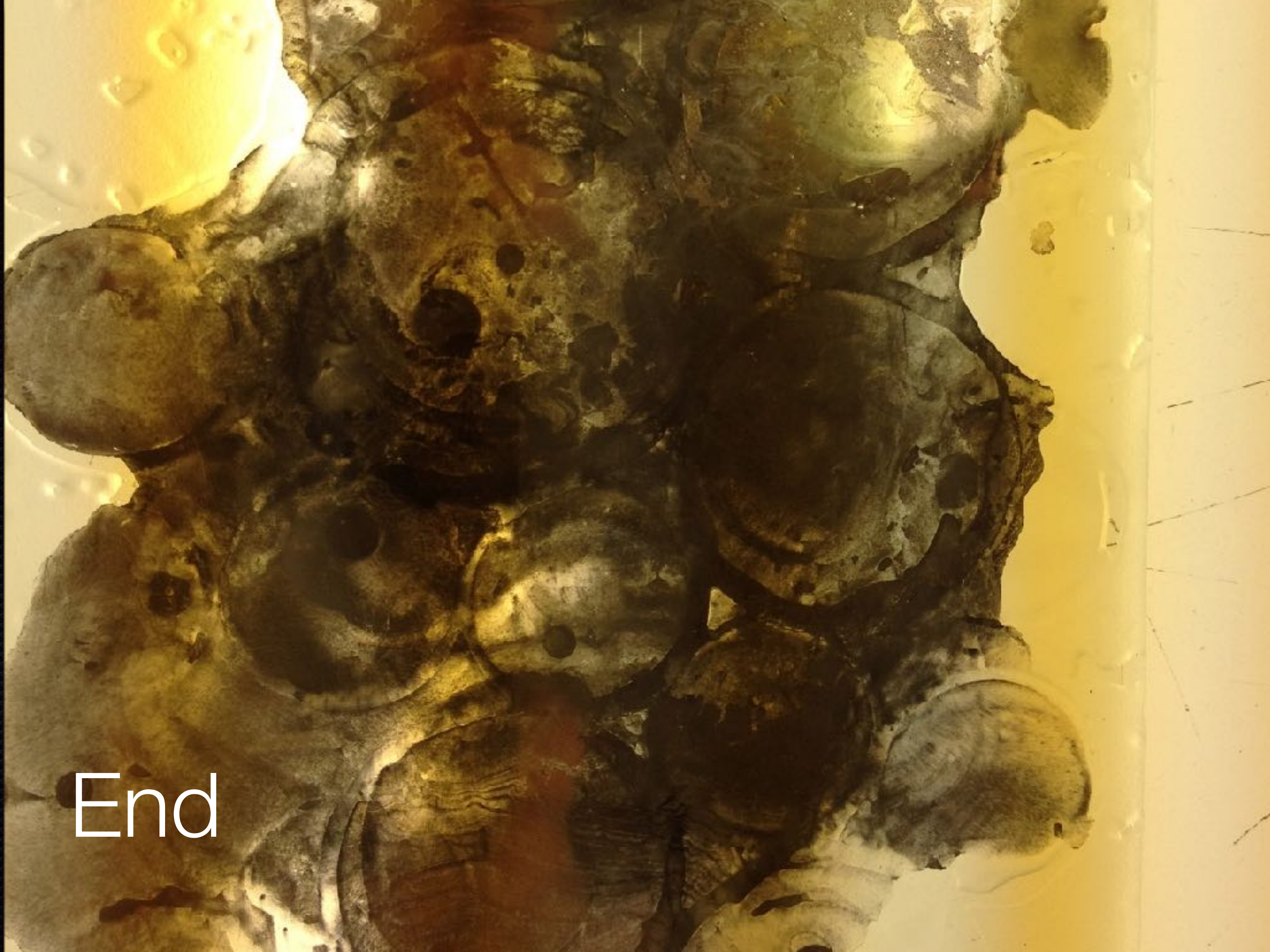
Electromagnetic radiation





Heurtebise: I am letting you into the secret of all secrets, mirrors are gates through which death comes and goes. Moreover if you see your whole life in a mirror you will see death at work as you see bees behind the glass in a hive.

<https://www.youtube.com/watch?v=B9PvyiEL6hw>



End

References

- ✦ Mark Pendergast, Mirror Mirror: A History of the Human Love Affair with Reflection, New York 2003
- ✦ Sabine Melchior-Bonnet, The Mirror: A History, London 2002
- ✦ Gerry Martin, Alan MacFarlane, The Glass Bathyscaphe: How Glass Changed the World, London 2002